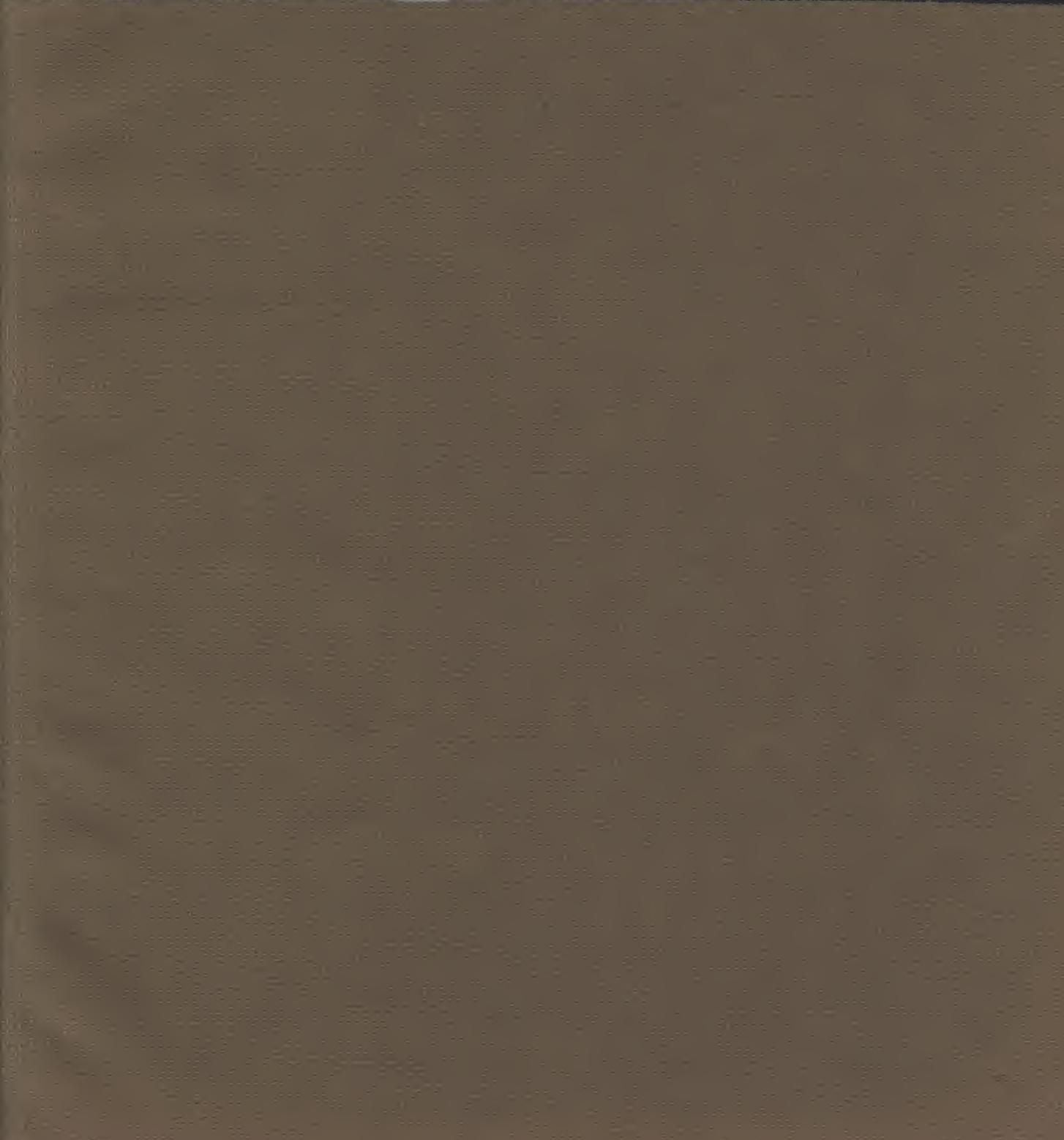


Modern Building Ideas and Plans







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Jim Draeger



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NOTE: Further particulars regarding any building illustrated in this book may be secured by addressing the East St. Louis, Ill., office of the General Roofing Mfg. Co.

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BUILDING—whether it be a little “cottage for two,” or a stately mansion—is fascinating to both heads of the house. If it be a home, the man usually purchases the ground—he is interested in selecting a site in a locality where real estate in all probability will rise in value—where the water, gas and sewer is easily accessible.

It is the man whose word goes the farthest in selecting the exterior design, the heating and plumbing arrangements. But it is the wife who delights in planning the interior. She looks after the convenient and artistic arrangement of the various rooms—she has her own ideas about the reception hall, the living room, the kitchen, the nursery and bathroom. These are certain things she “simply must have.”

Planning to build is to say the least a delightful occupation—and it is a problem that requires no small amount of thought and time. If done hurriedly some things are almost sure to be overlooked, and a book of suggestions like this is a most valuable aid. The selection of the materials that go into any building is important, be it a city residence, bungalow, garage, farm house, factory, apartment building or skyscraper.

First of all, be sure that the plans are correct for the kind of a building you intend erecting—second-thought changes will prove very expensive. And, contrary to the accepted understanding, really good construction costs little more than poor construction, provided the work is properly handled.



The “General”—the well known trade mark of the world’s largest manufacturer of Roofings and Building Papers.

THIS book is presented to you with the hope it will be helpful. On the pages that follow you will find in condensed form the best advice and experience of many leading, successful architects and builders.

The “General” says: “Here is a carefully chosen collection of modern building designs. Each one has been selected for a purpose—namely, to illustrate some worth-while ideas or principles in up-to-date design and construction. I want this book to help you. Study it thoroughly and then consult your architect. And let me advise you—always employ a *good* architect. He will save you more than he

costs and relieve you of much worry and perhaps from fatal mistakes in building.”



Talk over these building ideas and plans at home—

If you are thinking of building, these designs will crystallize your ideas and help you to decide what you want.

Some build without planning—others plan out in detail just how the ideal residence for them should be arranged, and then have the satisfaction of watching their plans blossom into the complete, well-built structure.



Then consult a good architect

THREE is no satisfaction in life quite equal to that of planning and building a home.

Deep in the heart of every man is the desire for a real, permanent home. A man wants more than a bunch of rent receipts he can call his own. He wants a piece of Mother Earth—it matters not how small—where he can build his home as he wants it and gather his family circle about his own hearthstone. Why keep on paying the landlord



Best ideas for bungalows and farm buildings

forever—and why keep moving around? We are coming to feel in this country—as they have long felt in Britain—that the home life should have a fixed center—something substantial to tie to—a place which the children can come back to with peculiar pleasure and reverence. “Under the family roof” should be the gathering place of generations.

SPEAKING of roofs, that’s right in my line,” says the “General.” “From my three big mills I am shipping roofing all over the world. When your Grandfather was a boy, there was only one kind of practical roofing—wood shingles. Today you can get a *better* roof for *less* money. There is *Certain-teed* Roofing in Rolls and Shingles for instance. It has made good by actual test on the

roof; and every year it is getting a stronger grip on the esteem of the building public."

When ready-roofing was first put on the market, years ago, most builders and architects preferred to wait and see it tested on the roof. In a word, the public demanded that it must prove its value by years of actual service on the roof before they would accept it.

Today, ready-roofing (*Certain-teed*) has won out on its own merits. It is used on all kinds of

buildings, in almost every country in the world and its use is growing by leaps and bounds. It has settled all arguments by giving absolute satisfaction in all climates and under most trying conditions.

The roof is quite the most important part of any building. There are many different kinds of roofing that you can buy, each one having its own special "talking points." But after all, when all is said and done, there is no roof so economical in *first cost*, so easy to lay, so weather-proof, and so all in all satisfactory as *Certain-teed* Roofing. You can buy it either in shingles for bungalows and other artistic residences or in rolls for farm buildings, warehouses, business blocks, etc.

ASPHALT is the important material used in any ready-roofing or specification roof. Be sure you get *asphalt*—not coal tar. Coal tar, as you know, is a by-product from gas works and coke ovens. It is driven out of the coal as a gas. Then as the gas cools, the tar is condensed into liquid form. When used in roofing, it dries out, becomes brittle, and in a comparatively short time loses its life. Being of a gaseous nature, it dries out rapidly.

Asphalt, the basis of *Certain-teed* Roofing, is a blend of mineral asphalt and mineral asphalt oils taken out of the earth. These asphalts were never a gas. They dry out very slowly. Nearly a quarter of a century of experience and tests have proved that this particular blend of asphalts make an ideal roof.



Away with the smoking tar pot



Approved methods for important city structures

ROOFs don't wear out, they dry out. The only test of roofing is on the roof. It is absolutely impossible for anyone, even an expert, to determine the quality or durability of roofing by simply looking at it. Bending, tearing, smelling, heating or in any other so-called "tests"—even a chemical analysis—will throw very little light on the question of durability.

The durability of modern, easy-to-lay *Certain-teed* Roll and Shingle Roofing made of best long fibre felts, saturated with the *Certain-teed* compound, is remarkable.

This isn't the best part about *Certain-teed* Roofing either. You run absolutely no risk in buying it. *Certain-teed* Roofing is guaranteed by the manufacturer for fifteen years and will last much longer. It is backed by the largest maker of roofings and building papers in the world, with nearly a quarter of a century experience in mining and refining asphalts. On the back of every roll and on every crate of shingles you will find the *Certain-teed* Quality Label. This is your positive guarantee of durability.

THE users of this modern, easy-to-lay *Certain-teed* Roofing are saving thousands upon thousands of dollars. It comes in artistic shingles for residences, bungalows, summer homes and garages, in rolls for general use, and, when laid according to the *Certain-teed* Specifications, is rapidly replacing the old-style coal tar and gravel roofings on big factories, warehouses, apartment buildings and skyscrapers.

Examine all of the model building designs illustrated in this book. You will find each one surcharged with worth-while up-to-date ideas for structures of its kind.

IF YOU want a well built structure, warm and dry, well insulated and well roofed, observe what building experts recommend concerning the waterproofing of basements, the insulation of side walls, floors and roofs, and the satisfactory handling of each building problem. Study each illustration on the pages that follow so that when you build you will get the full worth of your money. And remember to select the roofing material you use just as carefully as you select the material for any other part of the building.



Don't miss a single page



A Forest Bungalow

MANY of our cities have been planned with reference to the natural beauty of the surrounding country. Others have taken advantage of this natural beauty and have used it to the best possible advantage for parks, residence districts, etc.

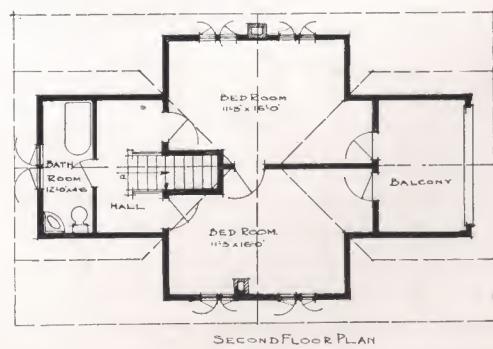
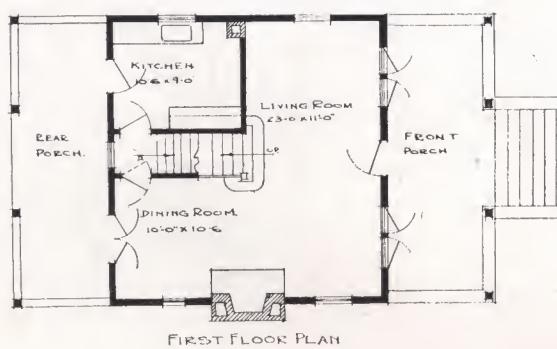
One of the most favored cities in this respect is Seattle. The surrounding country is almost mountainous, and a number of large lakes add their charm to that of the ocean. This gives the residents a considerable range to choose from in selecting their homes. The one we show on this page is in the forest only a short ride from the busy city and gives the owner every convenience and attraction of both city and country.

The Bungalow Plan is intended to provide the maximum of comfort and convenience with the mini-

Designed by Henry Hall Johnson, Architect

mum of labor. This plan is typical of a large number of bungalows built in a climate where the weather is neither severe in winter nor oppressively warm in summer; it is a place, however, adaptable to almost any part of our country. Attention is particularly called to the large front and rear porches; the combination living room and dining room, which take up practically the entire first floor, and the sleeping porch on the second floor, which is open only on the front and can readily be closed against inclement weather.

The architect of this bungalow has secured a most pleasing exterior as well as interior. While the gables and roofs are covered with wood shingles, an equally satisfactory result would have been obtained by the use of *Certain-teed* shingles, the colors of which harmonize with the atmosphere of artistic bungalows.





Interior Finish and Decoration

THE appearance of the exterior of a bungalow such as is shown on the opposite page is only the first half of the building problem. It is as important that the interior shall be tastily arranged, and decorated, as it is that the exterior shall present a pleasing and harmonious appearance.

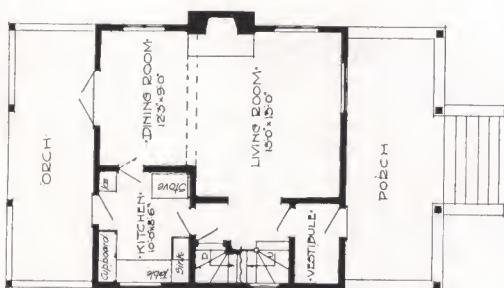
Various styles of architecture, if styles they can be called, have appeared from time to time, but it is only in the last thirty or forty years that home architecture has been developed to any appreciable extent.

The plate at the top of this page shows the interior of the bungalow on the opposite page. As will be seen, the house is finished with extremely plain casings, beams, etc.—the entire effect being that of simplicity rather than an attempt to display the wealth of the owner. The brick fireplace is in keeping with the rest

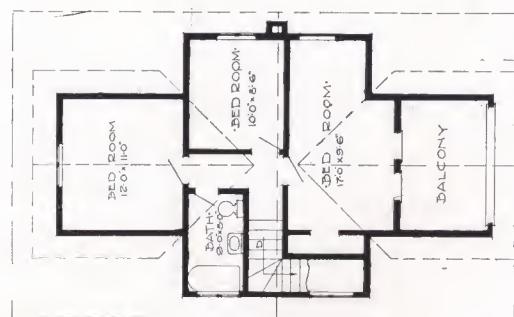
Living Room View of Bungalow shown on opposite page

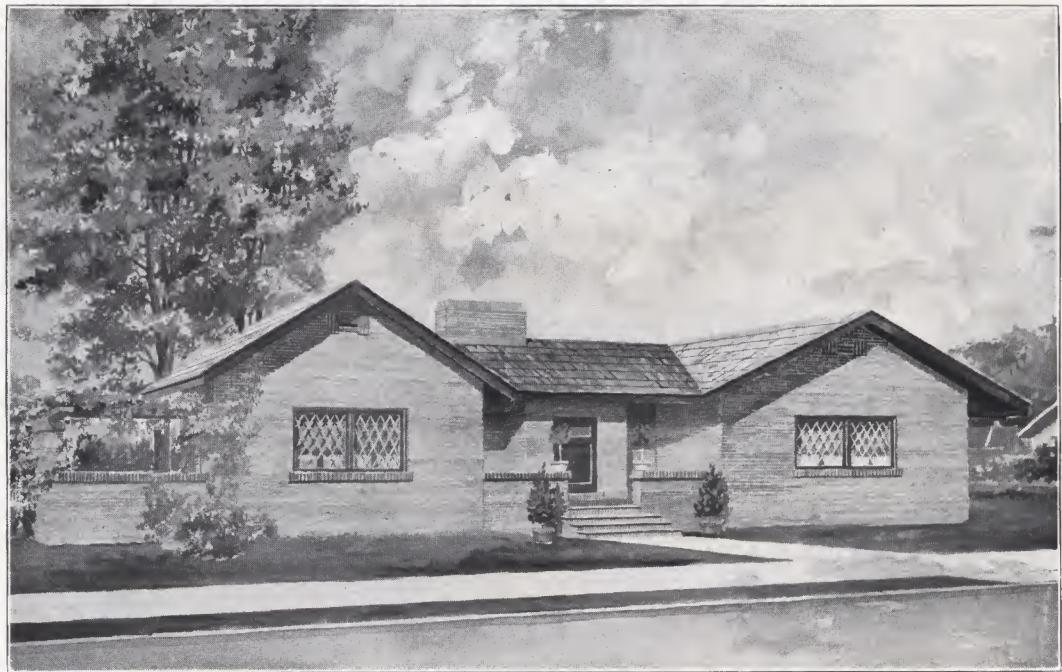
of the detail of decoration, being made of the roughest clinker brick obtainable, and laid to accentuate their roughness rather than an attempt to secure a perfectly smooth surface. Some might call this style of finish individualism, as it implies that the owner has selected just the things which appeal to his sense of good proportion, design and taste, and which harmonize completely with the simplicity of a forest home.

There is a wide field for choice in the selection of materials to go into a house of this character, but it is rarely that we find such a complete and artistic arrangement. Mahogany furniture of Chippendale design would be entirely out of place, and the furniture shown would not be suitable for rooms finished in elaborate tapestries or highly moulded paneling. It is this harmonious effect which makes the average bungalow agreeable.



Alternate first and second floor plan for bungalow shown on opposite page





Bungalow of Pleasing Design

NO more delightful and artistic form could have been followed in building this bungalow which in every way fulfills the idea of what a bungalow should be. Here is a little home that can be set down anywhere and made a part of the natural scenery surrounding it. The low, broad effect coupled with a rich red roof and the quaint leaded glass windows gives quite an Old World touch that is greatly sought but rarely encountered in this style of house. You may search for a long time but you'll not find a style of bungalow more ideally suited to the needs of a small family than this one.

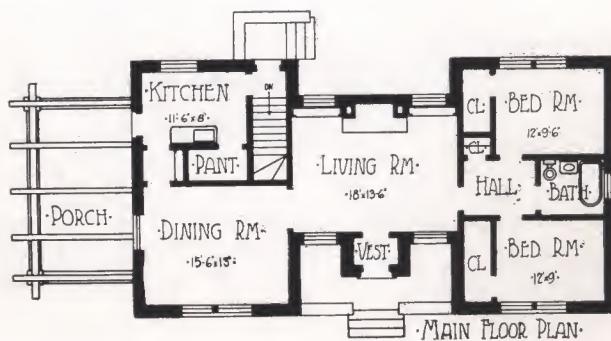
Three things are essential to success in bungalow planning—and all three are well handled in this design. They are: a commodious, well-lighted living room; a cheery dining room with kitchen and pantry immediately adjoining, so as to save steps; and sleeping rooms with bath, separated from the rest of the

Designed by G. W. Ashby, Architect, Chicago

house so as to be quiet and private. A glance at the floor plan will show how successfully these essentials have been handled in this artistic design. There is no waste space. Note the ample provision of closet and pantry space.

The exterior design of this bungalow is in the best modern taste—simple, strong, direct. The walls are rough texture brick of gray and golden shades laid in yellow mortar. A roof of *Certain-teed* asphalt shingles is very pleasing. Nothing is better for such a roof—contrasting with the green of the trees and shrubbery, which make the ideal bungalow setting—than these rich, red, durable asphalt shingles. The roof of any true bungalow is a prominent part of the design.

This is a substantially built brick bungalow, appropriately roofed. The design is full of ideas and suggestions for home builders.





Story-and-a-half Bungalow

Designed by The Radford Architectural Co., Chicago

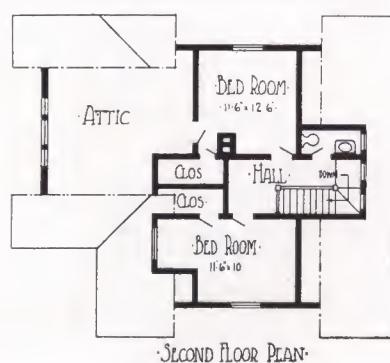
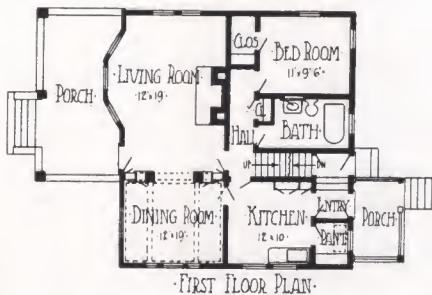
A GREAT many people fancy the bungalow style and would like to build a bungalow; but not every building lot is large enough to have all the rooms on one floor in true bungalow style—that is, if the dwelling is to have more than four or five rooms. For such, the story and a half bungalow is ideal. In this design, for instance, all of the coziness and unique charm of the true western bungalow is retained in a building only 31 by 28 feet; there are two and possibly three fine light rooms on the second floor “under the roof.” The number of rooms is seven.

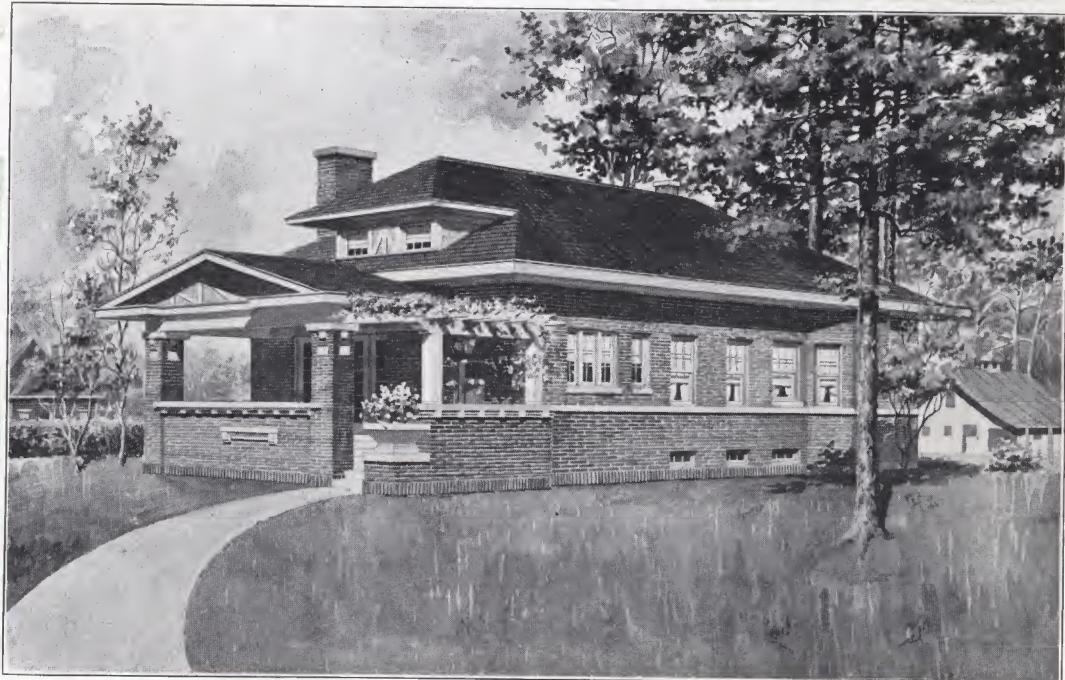
The floor plan diagrams illustrate some first-class principles of arrangement which hold good for any small residence. A dwelling of this size and style should be home-like, informal, arranged for convenience; and the living portion should be of generous size in spite of the smallness of the house itself. In these plans note the large cheery living room with adjoining dining room. Only a colonnade separates these. The space between column and wall on each

side is filled to shoulder height with a two-face built-in cabinet—a book-case on the living room side and a china cupboard on the dining room side. The arrangement of kitchen, pantry and back entry way is good. The stairway and hall are placed at the back of the house where they do not use up important space, as in so many small dwellings.

It might be considered desirable to have the bathroom on the second floor where it would be in close proximity to the majority of the bedrooms. If such change is desired it can be made at little extra expense. The idea in this plan has been to keep the bathroom close to the owner's bedroom.

This bungalow is of substantial frame construction with both roof and side walls shown covered with durable *Certain-teed* asphalt shingles. These shingles come in rich slate green, and contrasting with the white painted window casings, porch columns and soffit, and wide bungalow cornice, make a very strong effect.





A Model Brick Bungalow

Designed by The Radford Architectural Co., Chicago

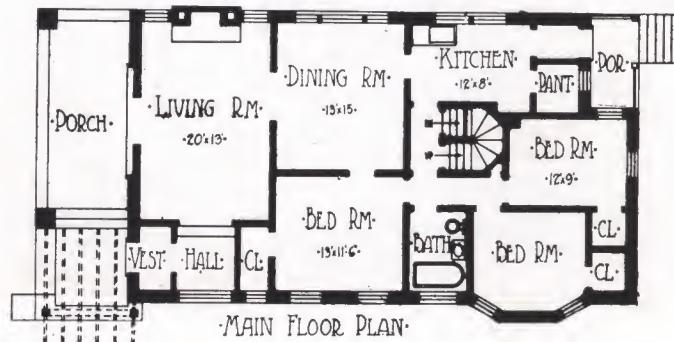
IT costs but very little more when building to put up a well-planned house of individual design —something different from the ordinary run. This little six room-cottage, for instance, contains no more bricks and mortar than the ordinary brick cottage of the same size; yet it has a distinction and personality all its own. This bungalow is a good example of modern rough texture face brick work, combined with a slate green roof of *Certain-teed* shingles. These rough faced brick come in many colors and shades. The deep reddish brown shades spotted with olive green are very artistic and combine effectively with the green *Certain-teed* shingles.

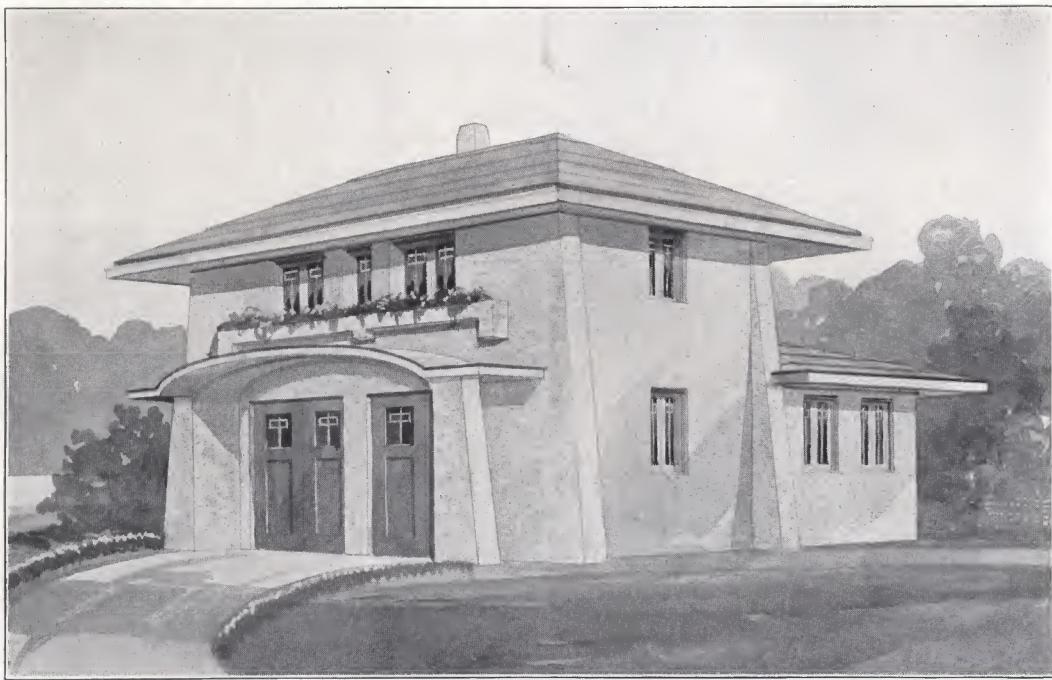
Here we have the pergola entrance which is novel and beautiful. The front porch is separated somewhat from both the pergola and vestibule, which lends a feeling of more privacy and coziness. The lay-out of the interior provides for spacious rooms with plenty

of light. The living room is of elegant size with an ample fireplace. Special notice should be taken of the glazed partition and double glazed doors between the living room and dining room. This is a new idea and extensively copied.

Besides these two rooms the house contains the kitchen, three bedrooms, and a nice large bathroom. The dining room has the built-in buffet; and provision is made so that the refrigerator placed in the pantry may be replenished with ice through a convenient door in the outside wall.

The attic contains sufficient space that can easily be converted into an attractive room for the maid, a child's play room, or a billiard room. The design of this building is very suitable to either city or country, and will prove a most attractive, convenient and durable home.



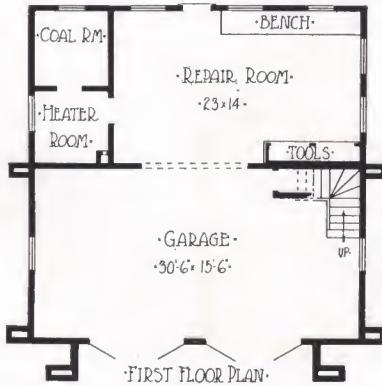


Garage With Living Quarters

WEALTHY automobile owners take about as much pride in the design and general architectural appearance of their garage as of their own residence itself. And it is logical that the building which is to protect ten or fifteen thousand dollars' worth of choice machinery should be planned with care and built substantially and well.

The garage is built with a serious purpose, namely, that of sheltering and protecting valuable property. The second consideration after this of safety is convenience in getting in and out and in taking care of the machines. The third consideration is the design—the architectural appearance.

This model design illustrated scores very high on all three of these counts. The ground floor provides space for two or three cars, besides work room and heating plant. The second floor provides very attractive living quarters for the chauffeur and his family. It has been found a great protection to have some one living in the

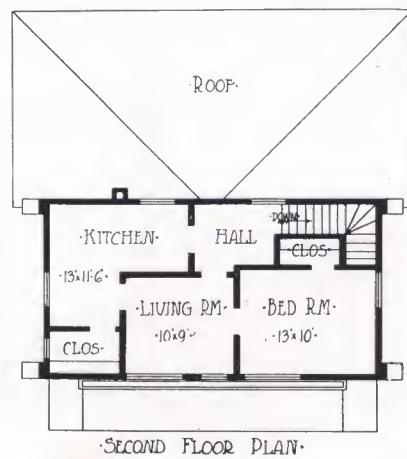


L'Art Nouveau Design in Cement Plaster

garage. Usually a more responsible man can be had also if there are attractive living quarters provided for him.

This garage is 30 feet square. The construction is cement plaster on expanded metal lath of No. 24 gauge and weighing not less than $3\frac{1}{4}$ pounds per square yard. The metal lath is nailed directly to the wood studs and is thoroughly back plastered. The inside of the walls are also lathed with expanded metal and plastered. This makes a building that is very fire-resisting.

The roof of this garage is an important feature and is handled in a way that deserves special attention. *Certain-teed* Roll Roofing is laid with horizontal joints. This treatment emphasizes the horizontal lines of the building. *Certain-teed* Roofing is exactly suited to this kind of a structure. It is artistic and durable, guaranteed for fifteen years, but will outlast its guarantee.





A Small Garage (Rear View)

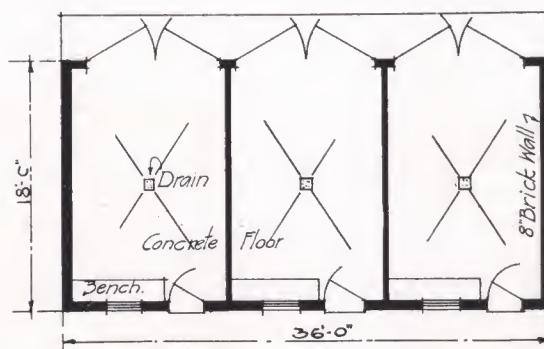
L. E. Russell, Architect

THE owner of an automobile is fortunate in some respects from the fact that his car does not require the same attention to put it up for the night as does the horse. There is no unhitching, throwing down hay and feeding, or rubbing down after a hard drive while supper is on the table waiting. Improvements in modern cars also make it possible for the average owner to keep them in good condition with comparatively little trouble. Many have found that it is possible to keep their cars in almost any kind of a shed or temporary shelter, but, as with everything else, a good car needs proper care and attention, and nothing helps to keep it in condition as much as a suitable garage.

At the top of the page is shown the rear of a garage made for three cars, the front being taken up by the

doors by which the cars enter. As will be seen by the plan each car has its separate room. This garage is located in the rear of a three-story apartment house and provides each tenant with a room for his car. Each room is equipped with water for washing the car, and a small bench under the window. A steam pipe from the apartment house heats the entire building.

The *Certain-teed* Roll Roofing shown on this garage will protect the cars, as well as the other contents of the room, from damage by the weather. *Certain-teed* Roofing is handled by so many reliable dealers that there is no difficulty in getting enough on short notice to cover even the largest job. This is one of the reasons why *Certain-teed* Roofing is proving so popular with contractors and builders.



FLOOR PLAN OF GARAGE



Two Inexpensive Garages

AFTER the man of average income has bought a car he does not feel like putting very much money into a shelter for it—a private garage. For a while he may keep his machine at the public livery, but this is a continuous expense that soon mounts up; and it is easy to figure that public garage charges would soon build quite a respectable private garage.

Most men, too, like to have their machines close at hand where they can easily be gotten at when wanted.

A small garage can be inexpensive and yet not a blot on the landscape. It can be well designed of pleasing appearance. The small one-car garage illustrated is an example.

This is a weather-tight, durable little structure that will furnish perfect protection and housing for one car. The construction is simplicity itself. The whole thing could be easily built and finished in a couple of days.

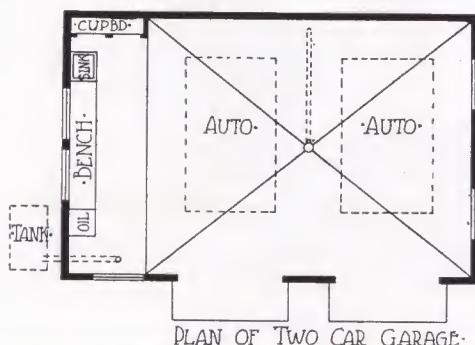
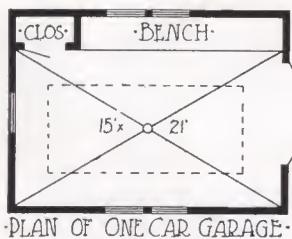
The floor is cement, laid like a cement sidewalk, and made with a slight slope toward the door. On this con-

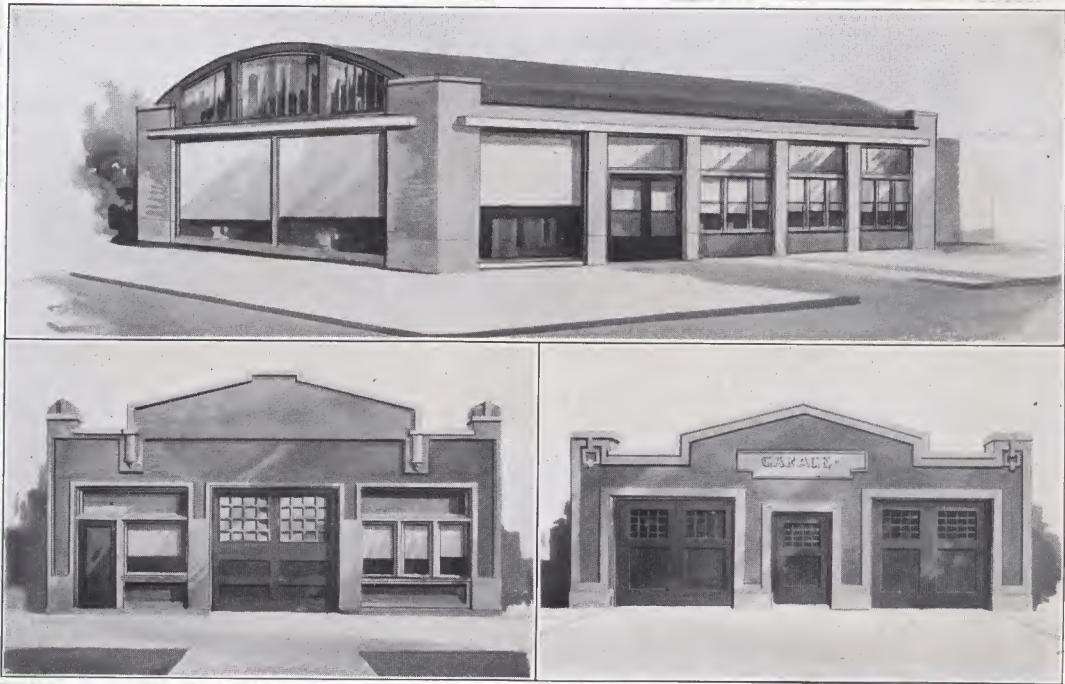
Effective Automobile Shelters

crete foundation, sill timbers are laid and a frame of 2x4 studs is erected. Wall studs are set 18 inches apart. Chicken wire is then nailed to the studs on the outside. *Certain-teed* Roll Roofing is nailed on over this, a batten strip at each stud covering vertical joints and holding the roofing securely in place. There is nothing better than *Certain-teed* Roofing for keeping out the weather. It is damp-proof and makes a warm covering. The wire mesh strengthens the wall so that the roofing would not be easily broken through. The inside of the walls also is covered with *Certain-teed* Roofing.

The roof is of simple construction—light rafters, wide spaced but tight sheathed with $\frac{1}{8}$ -inch roof boards. Over this, *Certain-teed* Roofing is laid.

A satisfactory design for a two-car garage is also illustrated. This is a cement plaster building shown with a *Certain-teed* roof. The arrangement of gasoline and oil storage, work bench, cupboard, etc., is worth attention for a building of this kind.





Public and Private Garages

Suitable for Both City and Town

THE automobile industry has developed a number of side lines that are found in the highest type in every large city. The public garage, of which several are shown at the top of this page, caters to those living in hotels, apartments and city residences where it would be inconvenient or impossible for each to care for their own car. These garages take the place of the former livery stable, and in many instances house the large taxicab companies, as well as care for private cars.

To meet the demands of the various owners the building must be conveniently arranged for easy entrance and exit. It must be properly lighted to avoid accidents. Storage should be provided for cars during the winter season, or such other times as they are not in daily use. There must be facilities for repairing and adjusting the various parts of the cars, and it should be centrally located.

As practically all garages carry an expensive stock of extra parts, tires, etc., every precaution should be taken

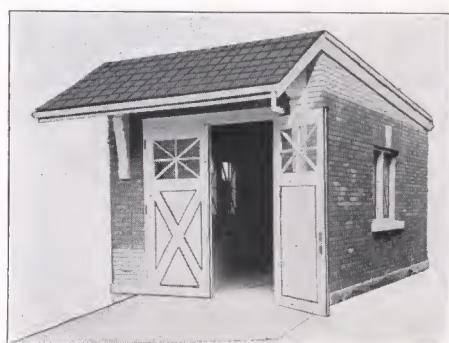
against fire. Many of their customers, such as doctors and the chauffeurs meeting trains, etc., require night service, so most garages are fitted with sleeping quarters for a number of men. This can be well taken care of on the upper floors of the building or a balcony above the first floor, which could otherwise be used for storage of small parts.

The suburban dweller has a wide choice in the design of his garage. The owner of the garage on the left at the bottom has arranged for a chauffeur's room on the second floor. The small garage on the right is suitable for the man who cares for his own car and is restricted to a small space for his building.

Certain-teed Roofing will be found to give excellent service on roofs of any size garages, as it is not only waterproof under all conditions of weather, but unaffected by heat or cold. Sparks from a burning building will die out on a *Certain-teed* Roof, as its composition does not encourage combustion.



Houses both car and chauffeur



One-car garage



Prize Winning Small Dwelling

THIS eight-room house was recently awarded first prize as the best small residence designed and built by a reader of the "American Carpenter and Builder." This well-known leading magazine of American building received hundreds of entries in the contest, but of the entire number this house was selected as being the most ideal small home.

The basement being fully plastered, contains a maid's room and an elegant den, as well as the laundry and furnace room. The large front porch provides plenty of room and comfort for the hot summer days. On the first floor are the living room, dining room, kitchen, bedroom, bath and a sun parlor or sleeping porch. If desired, the room off the hall may be used as a bedroom or library.

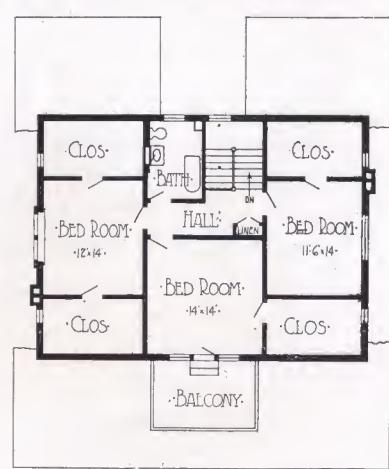
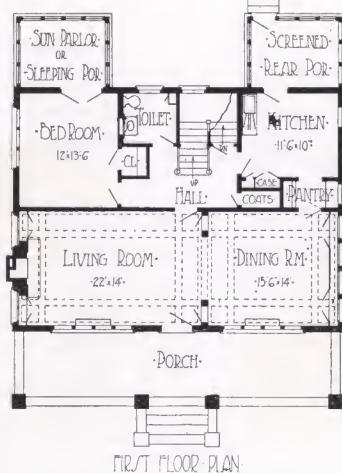
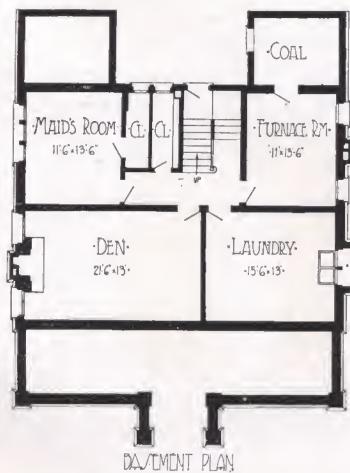
The second floor provides three large square-ceiling bedrooms, each having unusual closet space.

Designed by C. M. Gates, Architect, Denver, Colo.

There is also a bathroom on this floor. The idea of having a bathroom or lavatory on each floor is a good one, and is very favorably considered. It proves most convenient and saves many steps.

The design of this building is not meant to be imposing, but rather to give an impression of snugness and comfort. The style is patterned somewhat after the Queen Anne or Elizabethan order, with brick surrounded by cement plaster with wooden battens. The sloping roof is one of the characteristic features and gives just the necessary touch to make a pleasing exterior.

Can any more delightful harmony be imagined than such a building with just such a roof shingled with green *Certain-teed* Shingles? No modern construction is complete without them. They are so reasonable that every home ought to be shingled with them.





Economical Square Residence

Built of Stucco and Siding

MOST people, when building, want to get as much as they can for their money. This applies particularly to the man, who, in building a home, is limited to two, three or four thousand dollars. The up-to-date architects of small and medium sized dwellings have, accordingly, concentrated on this point. They have found that the house giving the most accommodations at lowest cost, is the one of regular outline, approximately square in plan.

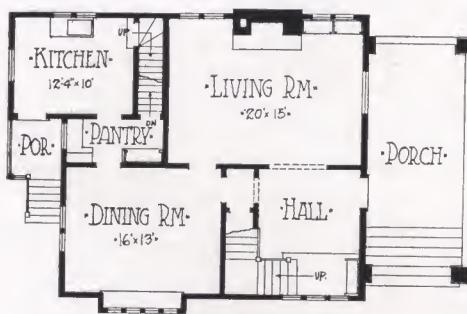
Every inch of space in such a house, if well designed, can be used to advantage. The exterior presents a dignified, stylish appearance, very grateful to the eye because of its very simplicity.

This design illustrated has been chosen from a large number as being a model dwelling of this sort. Thirty by thirty-seven feet in size, this house contains eight large, finely laid-out rooms, besides an extra amount of

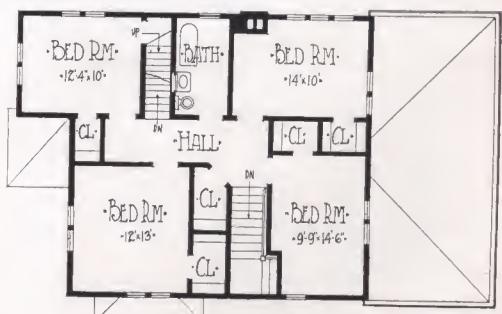
clothes closet and pantry space. A study of the floor plans will make clear the excellent features of the arrangement of the rooms.

On the outside this residence conforms to the best present-day ideas. The walls are covered with beveled siding from the water table up to the second story window sills. From there, up to the eaves, the walls are cement plastered. The roof is the popular hip style of rather flat slope with wide projecting cornice.

The architect specified *Certain-teed* asphalt shingles for this house, both main roof and porch roofs, knowing how well they harmonized with a substantial-looking residence like this. As these *Certain-teed* shingles come in rich red, green and gray, many very pleasing color schemes for this house can be had. A novel idea is also to use the asphalt shingles in the place of cement plaster siding for the second story walls.



FIRST FLOOR PLAN.



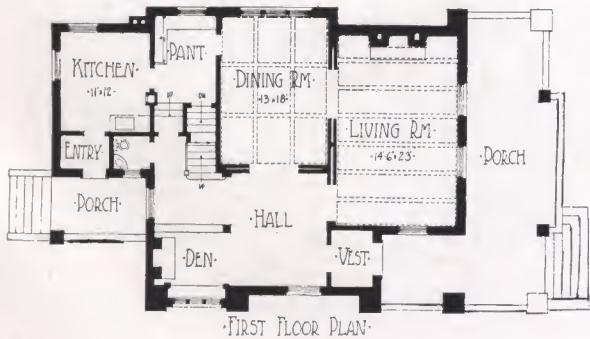
SECOND FLOOR PLAN.



Large Brick and Stucco House

WHEN a residence of some size and pretensions is wanted, it is assumed as a matter of course that it must not only be capable of providing the comforts necessary to ordinary family life but that it must also meet the requirements of social activities. To do this the medium sized house must be so arranged that every available inch of space can be used when the occasion demands. The plans given here will show how nicely this has been done in this case.

The house presented is a fine nine-room brick veneer and cement plaster residence. Standard frame construction was used with the popular exterior treatment of dark brown pressed brick for the first story and cream colored cement plaster above. This combination surmounted by the roof of slate green *Certain-teed* shingles makes a very attractive looking place. In this building, as is important in all well-built houses, the basement is thoroughly waterproofed with a course of *Certain-teed* Asphalt Saturated Felt.

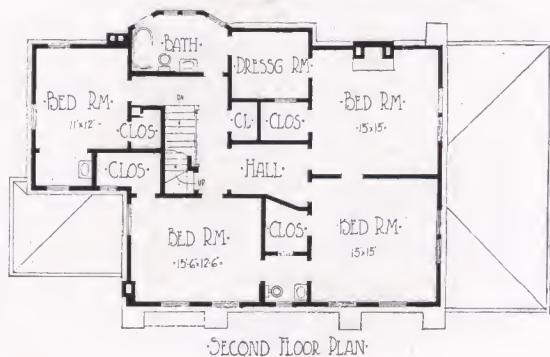


Designed by The Radford Architectural Co., Chicago

The arrangement of the first floor is such that the large living room, reception hall and dining room can by means of sliding doors be thrown into practically one large room. Beamed ceilings in these apartments make them very beautiful. The remainder of the first floor provides space for pantry, kitchen, toilet, and den in admirable arrangement. The position and style of the stairs is also good.

The second floor plan discloses an exceptionally good location of bedrooms and toilets; and practically all the closets are equipped with windows to furnish light and ventilation.

A circular arch roof was used in the dormers to get space for the attic, which was laid out to provide quarters for the servants. The basement likewise is so treated that full advantage of extra space may be had. The roomy porch is well worth a little attention.





A Gambrel Roof Design

A GAMBREL roof is very pleasing if correctly proportioned. Probably the maximum amount of interior space for a given cost is secured in the gambrel roof style. The design illustrated is one of the best of these. This is a good house for a narrow building lot. The extreme width is less than thirty feet. It seems to be a hard matter to design a good looking house for a narrow building site, and this design offers a satisfactory solution for this difficulty.

In fact there are few buildings that present as impressive an exterior as this does. All the harshness of outward design has been done away with, and only a simple uniform outline preserved, which suggests great inside comfort.

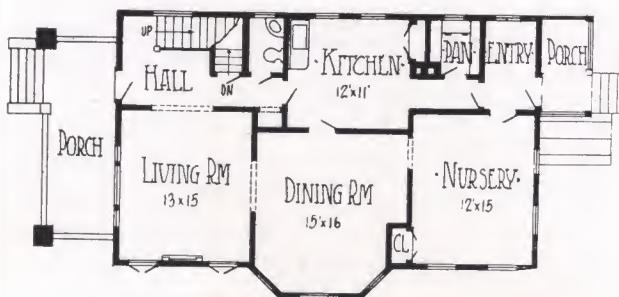
In this building the floor space is so divided as to give a pleasant proportion to each room. The first floor is occupied by the living room, dining room, kitchen and nursery. A console occupies the space between the two side windows in the living room. In-

Large, Roomy and Inexpensive

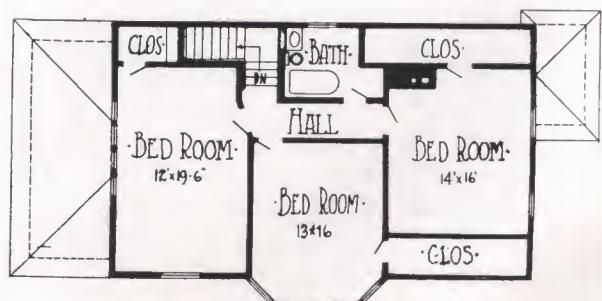
stead of doors, cased openings connect the living room with the hall and dining room. In this way an open and roomy effect is secured. A feature of this floor is the toilet off the rear of the hall. The kitchen has a large cupboard and pantry.

On the second floor are situated three fine light airy bedrooms and the bathroom. Two of the bedrooms have immense clothes closets. All of the bedrooms are large enough to be used as double rooms if necessary and if so used the house will accommodate a large family with comfort.

This is a cement plastered building, with plaster coat waterproofed and painted light tan and wood trimming painted dark gray. The roof—a very prominent part of this design—is covered very satisfactorily (both with reference to durable weather-proofness and attractive appearance) with *Certain-teed* Roofing. Between the boarding and plaster coat, *Certain-teed* Black Insulating Paper is used for warmth and dryness.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



Cement Plaster Dwelling

Designed by The Radford Architectural Co., Chicago

NO collection of model residence designs would be complete without a cement plaster house. The popularity of cement plaster for exterior siding has continued to grow until now in many localities four out of every five new residences are of this kind.

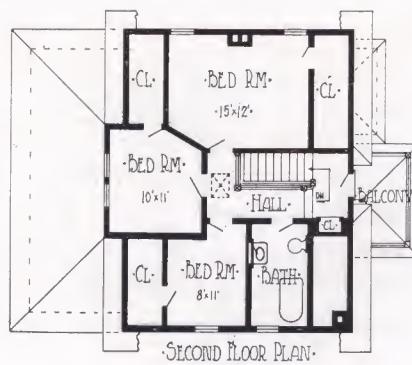
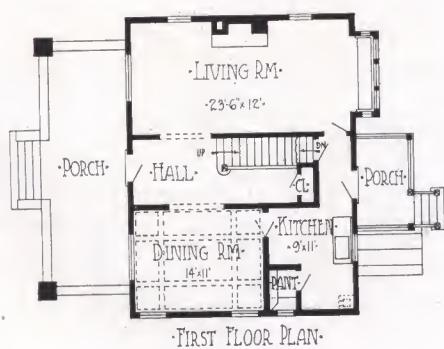
Cement construction has gained great headway in the last five or six years and has proven up to the mark for fireproof qualities and durability.

The design shown possibly does not need a great deal of comment. The simple straight outlines of this house prove most effective, and especially so when relieved by the ornamental wood strips which lay the gables off into panels. This form of ornamentation is being much used and lends the impression of Old English architecture. The cement plaster is easily tinted some light color—cream, tan or pink, which forms a strong, harmonious contrast with the

Certain-teed Roll Roofing recommended for just such a house.

This particular house is illustrated, as it embodies some tried and tested ideas for arranging a small commodious house of six rooms. The large porch provides a pleasant summer retreat and can be screened in summer or glazed in winter. The extra large living room has windows on three sides. The large stair hall as well as the well-placed dining room and kitchen are features worth noting. The second floor provides three nice bedrooms and bath, while the low space under the sloping roof is well utilized for closet space. If desired, the balcony over the rear porch may be converted into a sleeping porch at very small expense.

Taken all in all this residence is a model home for a small family and will show up well wherever placed. The style makes it peculiarly adapted to either town or country.





Suburban Two-flat Building

OUT in the city suburbs and in the smaller cities and towns, there is a feeling against ordinary city flat buildings. They hurt the appearance of a neighborhood. The neighbors don't like them and they cannot be rented to advantage. Yet people everywhere now recognize the convenience of living all on one floor. A two-flat building, if properly designed, is a desirable paying proposition anywhere.

The design illustrated contains a five-room apartment on each floor. In exterior appearance this building resembles an ordinary residence. For locations where reasonable ground value makes it possible to have unobstructed light on all four sides, this is an excellent design.

This building may either be standard frame construction with cement plastered walls, or walls may be of cheap brick with an outside coating of cement plaster. It is very important that such a building be well roofed. *Certain-teed* Roofing is recommended for this. The modern tendency in roofs is to make them

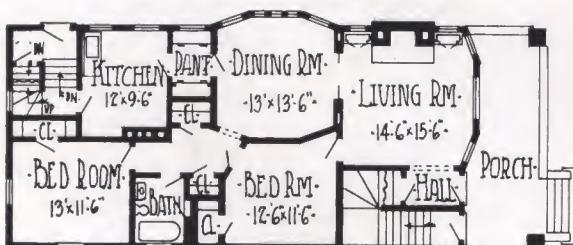
Up-to-date Hip Roof Design

very flat; and the hip roof style is used more than any other. For such a roof, roll roofing is the only kind that is absolutely weather tight. *Certain-teed* roofing is guaranteed for fifteen years.

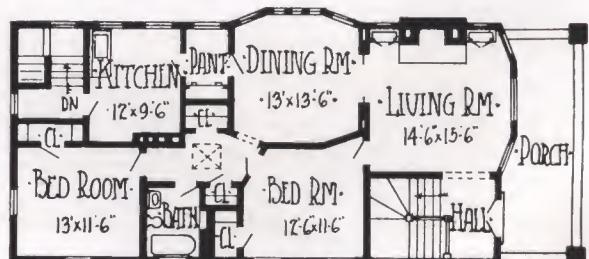
A study of the floor plan diagrams will show how comfortable and convenient one of these flats is to live in. There is a large cheery living room, a well lighted dining room with kitchen and pantry closely connected, two bedrooms, bathroom, and four clothes closets.

The deep porches of this building are very commendable. They suggest the greatest degree of summer comfort, as this style easily lends itself to screening in. The fact that each porch is lighted by an overhead light makes them adaptable as living porches, where the entire family can enjoy the cool breezes day or evening.

As an investment, no residence building offers more advantages than this.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



Attractive Two-flat House

Designed by The Radford Architectural Co., Chicago

THIS design shows an interesting two-flat building or house giving all the conveniences of the ordinary modern city two-flat building, but presenting the outward appearance of a fine, dignified individual residence. It suggests a means of having a home and at the same time a revenue-producing investment.

There is a six-room apartment on the first floor and a seven-room apartment on the second floor. The arrangement of rooms, as will be seen by a glance at the floor plans, is along the lines which much experience in apartment house planning has demonstrated to be most convenient and popular.

A few desirable features are obtained by having a built-in hinged cover box seat in the reception hall, a large window seat in the dining room bay, and the brick fireplace with built-in book cases on each side in the living room. The two flats are identically the same with the exception that on the second floor a bedroom

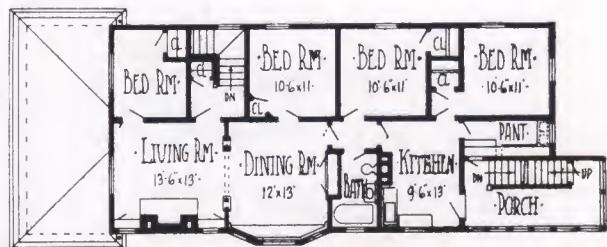
is provided in the space over the vestibule and stairs. It will also be noticed that the back porches may be enclosed with either screens or sash; and, being removed from the street, insure privacy and quiet. In the building great care has been taken to use the floor space to the best advantage. The floors themselves are well sound-proofed with *Certain-teed* Deadening Felt.

The basement gives each tenant a separate fruit cellar, storage room and fuel room. The laundry of course is used in common. A toilet just off the laundry furnishes a convenience not usually found.

This is a cement plastered structure with shingle roof. Nothing could be prettier than the light gray or cream colored cement side walls with trim stained reddish brown and the roof of rich red or green *Certain-teed* asphalt shingles. And the low cost of these high-grade shingles is important in a building of this kind.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



The Modern Apartment House

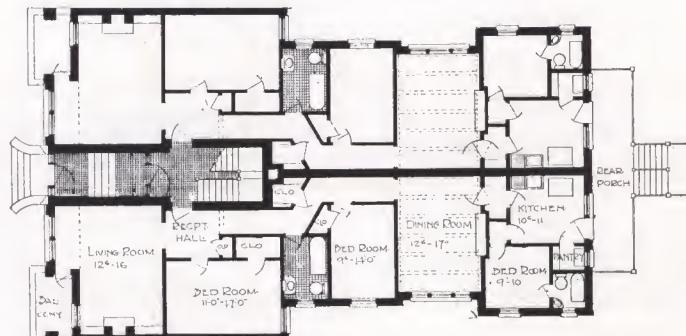
L. E. Russell, Architect

THE modern apartment house is the logical result of the concentration and specialization of both business and living. Every facility for transacting business is required by those working through the day, and this has evolved the modern office building. Similar conditions in the home life have developed the apartment house, where what may be called concentrated living is made possible. The result is the many-storied apartment houses seen in the centers of the greatest population, while in other cities lower structures are possible through the lower land values. The employes of shops and offices feel that their day's work is practically done when they leave their place of employment and few care for a home in the suburbs or country where it is necessary to spend an hour or more in reaching their homes. Others feel that the work attending the keeping up of a single house would be too much to add to their daily duties, and this has increased the popularity of apartments.

The plan shown on these pages is one particularly adapted to any city and meets all the rigid require-

ments of the building department, and board of health, etc. It will be noted that there is very little hall space and that every room is provided with an abundance of light. The plan provides for the requirements of a small family and consists of a large living room, dining room, kitchen and two bedrooms for the use of the owner. A separate bedroom is provided for the maid, and this bedroom has its separate bathroom.

The roofing of an apartment building is vital; it must be roofed to last; it is always a flat roof and must be absolutely water-tight. *Certain-teed* Specification Roofs are ideal for such buildings. *Certain-teed* Specification meets the above requirements perfectly, and besides is moderate in price and no repairs are needed. Another important feature in apartment house or hotel building work is sound-proofing. Each suite of rooms should be entirely shut off, so far as noise is concerned, from all the rest. This is best done by building all the walls and between all floors with *Certain-teed* Deadening Felt.



MAIN FLOOR PLAN



*View of Living Room
in Modern Apartment
House.*



*View of Dining Room
in Modern Apartment
House.*

Two Beautiful Interiors

(Continuation of Article on Preceding Page)

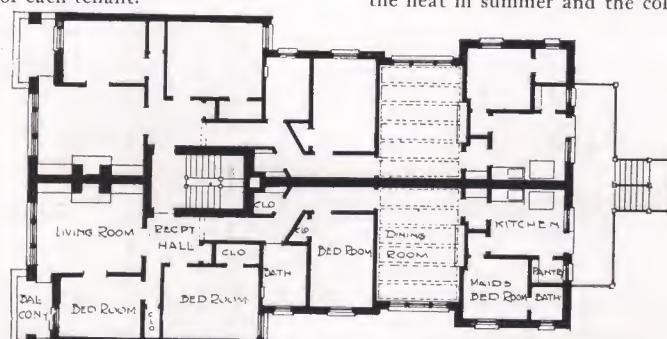
The living room in this apartment is unusually large and contains a brick fireplace, as well as an alcove from which a door leads to a private balcony. This can be entirely screened off if desired, or can be used as a sleeping porch.

A feature of the apartment house is that it usually contains considerable built-in furniture. In this case there will be seen the bookcases at the side of the fireplace, the sideboard in the diningroom and the refrigerator in the pantry. These items all reduce the amount of movable furniture necessary, and to a certain extent permit more frequent changes of residence.

This flat building contains six entirely separate apartments, as well as the janitor's rooms in the basement. The basement also contains the laundry and a separate storeroom for each tenant.

But however pleasing the appearance of a building or how satisfactory the plan, it counts for very little unless an absolutely tight roof is put on. The *Certain-teed* Specification was formulated to take care of just such roofs as these, where valuable paintings, tapestries and other furnishings must be protected. A small leak would do great damage to the beautiful decorations usually found in apartment houses, and every precaution must be taken to make the roof absolutely and permanently tight.

Between the rough and finished floors in apartment houses it is advisable to place several layers of *Certain-teed* Deadening Felt to prevent sounds or vibration from passing from one apartment to another. It is also advisable when frame construction is used to sheath the lower side of the rafters with *Certain-teed* Black Insulating Paper to insulate the top floor against the heat in summer and the cold in winter.



UPPER FLOOR PLAN



A Model Farm Home

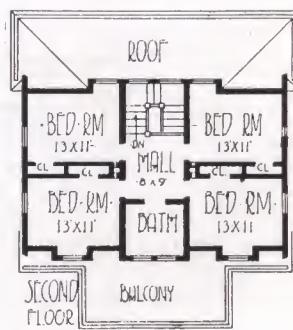
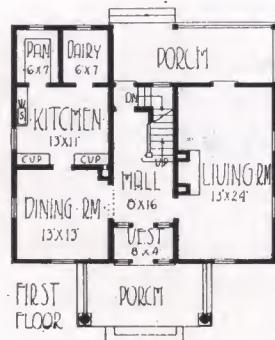
Designed by M. L. Keith, Minneapolis, Minn.

IN THESE progressive days, the farmer is in no way behind the city dweller in his desire for a beautiful home. Years ago the first consideration of the farmer was his barn or other farm buildings. He figured that a good barn, silo or cow-house was an asset and piled up the profits of farming, while no such claim could be made for the house. The tide of favor now turns toward more comforts on the farm, and with the advanced ideas of the times, farm owners are erecting homes that can be favorably compared to any city house.

The design shown on this page is a farm home of great beauty—one that harmonizes nicely with the usual surroundings of a country house. It is a gambrel roof design showing a strong leaning toward the Colonial. It is beautiful in its simplicity. The inside arrangement uses every bit of space. From the plans,

it will be seen that the first floor is occupied by the large living room, a dining room, kitchen, pantry and dairy. A large rear porch is also provided. On the second floor are four large bedrooms, as well as a smaller room which can be used either as a small bedroom or a bathroom.

Naturally the structure is of wood, and the front porch and balcony give the house a strong Colonial feeling. To heighten the effect the house was painted white with green trim and green *Certain-teed* Shingles on the roof and gables. That color combination is most effective and would not ordinarily be used if one had to stop and stain wooden shingles. *Certain-teed* Shingles come in green, red and slate gray colors and prove more economical and lasting than wood shingles, with the additional advantage that they never fade, split or warp.





The Farmer's Home

Recently erected in Illinois

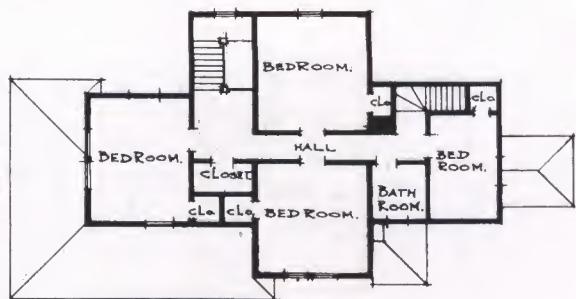
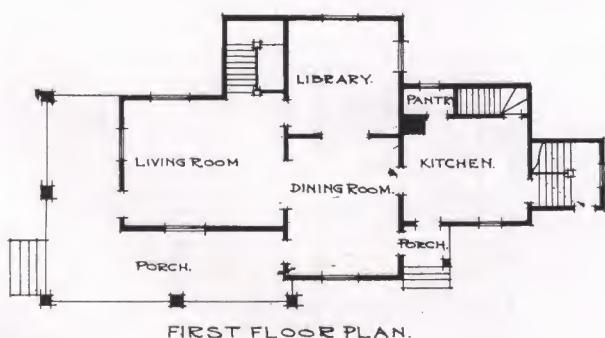
THE condition of the American farmer has greatly improved in the last few years. Between high prices for his products and the improvement in transportation facilities, there has been a steady increase in his income, which has made him the envy of those engaged in many other lines and even professions. While there are still many farms in which the buildings are of the original economical styles, hewed out of the logs of the forest, or in which the lumber and other materials were carted long distances, it is a fact that the average farm building is very much better at that than the equipment in any other line of work.

The farmer who lived on one plot of ground for ten or fifteen years gradually has improved his fences, the grounds, and buildings. As necessity required, new barns and other buildings were erected, and at the last

a new house, modern in every detail, takes the place of the old homestead.

We show on this page a modern farm residence recently erected in Illinois. As will be seen from the plans, there are eight rooms on the two floors and the attic could be finished off in three rooms to be used if necessary. It will be noted that each bedroom has a good sized closet, besides a separate closet for the hall. On the first floor, access is had to the kitchen either through the side entrance or through the rear entrance, which also opens into the basement. This does away with any outside cellarway, which is always an inconvenience in cold weather.

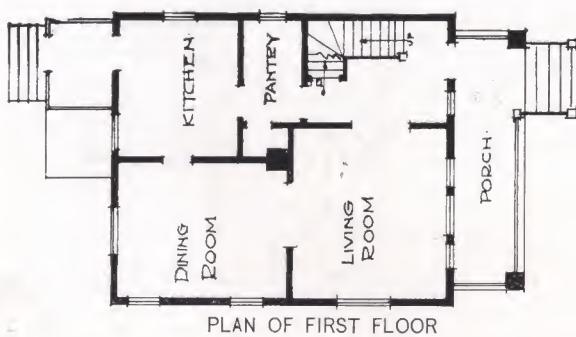
We show the roof covered with *Certain-teed* shingles, the colors of which blend harmoniously with the exterior finish.





Small Farm Cottages

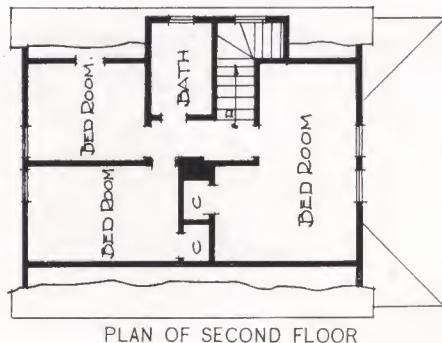
THE question of housing the help on the farm has been solved in different ways in different countries. In some, the laborers live in town and come out daily to the farms; and in others they are boarded in community houses; some own their own homes, but the great majority are dependent upon the farmer for a roof over their heads. For single men it is frequently possible, and advisable, to board them in the farm house, but this has numerous objections. Where the man has a family, there is no question but that the best interests of all are served by each laborer having his own cottage with enough ground to permit a small garden and to support a cow and chickens. The independence felt by the man and his family under these circumstances is worth considerable to the farmer, and there is every reason to think that, having a good home, the laborer is more contented and is less apt to seek another place on slight provocation.



Erected on Large Seed Farm

The photo at the top of this page shows two laborers' cottages on a large farm. The plans at the bottom of the page will give an indication of the convenience which can be obtained in a house of this kind. Besides the living room, dining room and kitchen on the first floor, there are three bedrooms and a bathroom on the second; the entire arrangement being designed to make housekeeping easy and yet provide all of the accommodations necessary in a building of this character.

For buildings like these, *Certain-teed* Roll Roofing is ideal, as it can be easily applied, remains for fifteen years absolutely waterproof, and is practically indestructible. The surface of *Certain-teed* Roofing presents no roughness on which dirt or leaves can collect, and later contaminate the cistern water. There are no loose pieces to hold the water and rot the boarding beneath. In appearance it has a restful tone.





A General Farm Barn

Silo, Large and Convenient

MANY farmers have found that it is advisable to keep practically all of their stock in one barn.

There are advantages in this as it enables much of the work to be done without going outside during inclement weather. Considerable attention must be paid in planning a barn to keep the right proportion of space between the various animals, avoiding if possible empty stalls in the horse barn or empty stanchions for the cattle. Nor is it well to crowd them too much, as no good effects can be obtained by so doing.

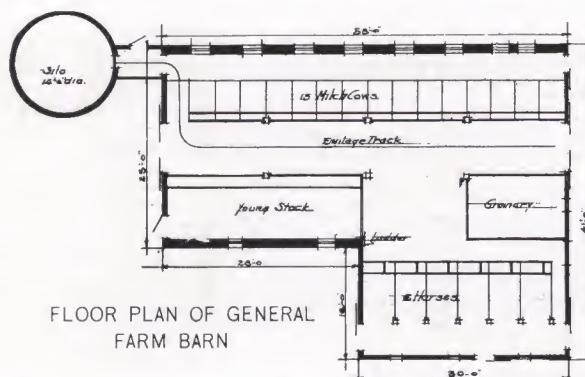
In the general barn shown at the head of this page, provision has been made for fifteen cows and six horses; this arrangement suiting the owner of a sixty-acre farm. It will be noted that provision is made for keeping the young stock entirely separate from the rest.

In connection with the milch cows, the silo is a very necessary adjunct. In this illustration it is shown at

one corner of the barn, this location being chosen as it would least interfere with the large doors in the end of the barn. A track to convey the ensilage from the silo to the feeding manger relieves the farm hands of much of the tedious work of feeding.

The second floor of the barn is used for the storage of hay, a track being run through the ridge to a large door on the end so that it is not necessary for the teams to drive into the barn. The entire space is thus utilized.

The farmer who uses *Certain-teed* Roofing on his barns and other buildings has a peculiar sense of satisfaction during the cold winter months, as well as during the summer showers. No rain can get in to damage the hay or grain, nor will the animals feel any discomfort from the cold winds. The profits of farming are thereby increased through the saving of the material and the economy in feeding to keep the animals warm.





A Stock Barn

THE photograph at the top of this page shows a barn erected on a large dairy farm for the use of the cattle only. On one side is a combination for eighteen cows, while on the other side is the space for young stock. An overhead track at each side of the building greatly reduces the work of cleaning up the barn, and the large end doors provide ample room for driving in with a wagon load of feed or green forage.

The milk house at the end of the barn has a concrete floor and is reached from either the barn or from the yard.

It will be noted that the second floor is entirely separated from the first, except for a small ladder. The main access to the second floor or the hay loft is reached by a short bridge, and a hay carrier running through the ridge quickly carries the hay to any desired part of the building. Ventilation is secured by

Especially Adapted for Dairy Farms

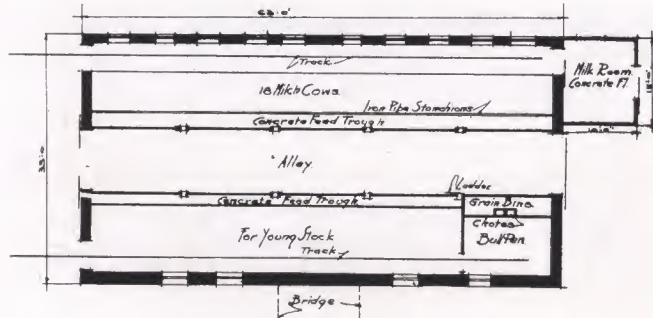
a number of windows, as well as through the cupola.

A portion of the second floor is used for grain and feed storage, the bins emptying through the chutes into the smaller bins below.

Certain-teed Roll Roofing is shown on the roof of the barn, as well as upon the milk house and the corn-crib in the rear. This roofing is guaranteed to give 15 years' service on the roof, but it will last longer. It not only keeps out the rain, but forms an airtight covering as well.

The summer's heat soon strikes through the ordinary shingle roof and makes the haymow intolerably hot. The nature of *Certain-teed* Roofing makes it act as an insulation against heat of this kind and lightning, as well as retaining the heat inside during the winter months.

There is thus both economy and comfort in its use.



Floor Plan of
Stock Barn



Grouping Farm Buildings

THE arrangement of farm buildings too often shows a haphazard growth instead of an arrangement according to a preconceived plan, which would bring the buildings into the best arrangement for performing the various farm duties and for minimizing the arduous work on the farm. In the illustration shown above, the farm buildings are arranged closely together and still with due regard for easy access to each. In the main barn the basement is used for the dairy herd and the main floor, which is entered from the rear, is used for hay and grain storage. A hay carrier running from end to end of the building takes the load of hay from the wagon and distributes it wherever desired. The two silos represent the growth of the silo idea; the first being built as an experiment. It was soon found that the principle was right and that the use of ensilage brought immediate and satisfactory returns in milk and cream. The second silo was therefore built, having about four times the capacity of the first.

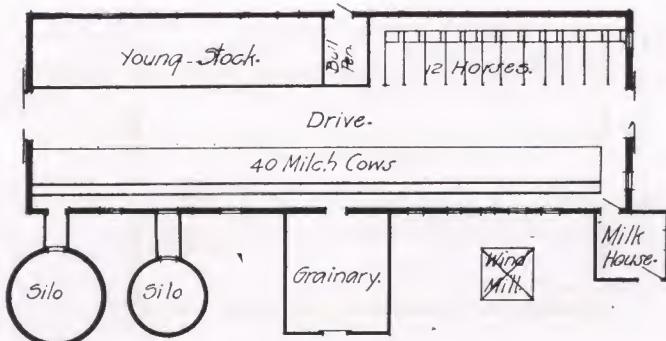
Arrangements that Save Steps

In the middle foreground is shown the milk and cream house which is supplied with cold water from the windmill to quickly cool the milk.

In the foreground is seen a buggy shed of ample size to take in the largest farm machinery. The relative size of this shed may be judged from the farm wagon immediately back of it. At the end of this wagon shed is a work shop in which all of the ordinary repairs to machinery and farm implements can be made.

This group of buildings represents the value of *Certain-teed Roofing* to the farmer. Every character of building can be provided with a watertight and permanently tight roof. A comparatively small leak in the haymow will ruin quantities of hay, and the other farm products are equally susceptible to deterioration. Farmers have found that *Certain-teed Roofing* saves them not only money in first cost, but in repair bills.

GENERAL ARRANGE-
MENT OF BUILDINGS
SHOWN ABOVE





A Model Horse Barn

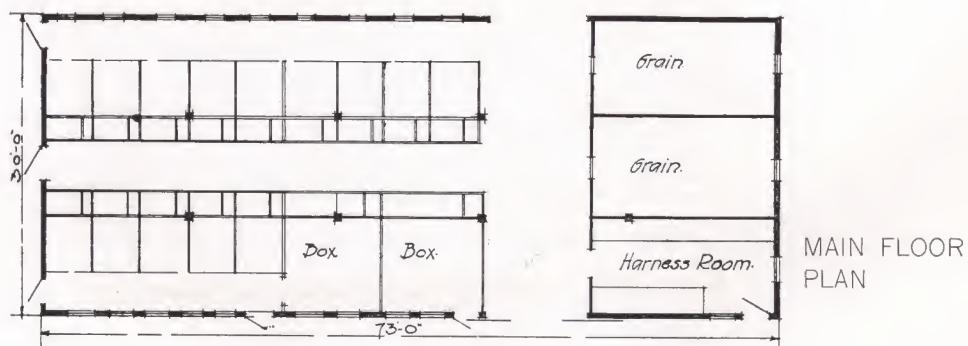
Built near Lombard, Ill.

INTENSIVE farming requires that every inch of available soil be cultivated and that all of the products of the soil be taken care of. To do this to advantage there must be suitable barns for storing such crops as are necessary to hold for the market, as well as for providing space for the horses used in cultivating the crops and getting the truck to market. On such a farm, a large dairy herd is the exception; only enough cattle being kept to supply the family with milk, butter and cheese. On a large farm the number of horses frequently is considerable. In the barn shown above there are accommodations for fourteen horses in the stalls, as well as two box stalls which may be used for young colts.

The plan also shows storage space for grain, as well as a harness room provided with racks and shelves so that the equipment can be kept in first-class order.

A portion of this farm is given to raising grain and hay for the horses; the grain being cared for in the two bins shown, while the hay fills the entire second floor, except the portion above the driveway. The loaded wagons are driven into this space and are unloaded by a hay carrier, which travels the full length of the barn. This space can be used as a temporary wagon shed and provides a space for loading up the wagons for an early morning trip to town.

We have shown this barn as it would appear with *Certain-teed* Roll Roofing on the sides as well as the roof. *Certain-teed* Roll Roofing is the ideal material for covering a building of this kind. Not only does its use on the sides keep out the cold winter winds and rains better than any wood siding could do, but it relieves the owner from frequent painting bills which occur on ordinary wood siding.





General Utility Barn

THE farmer who devotes his attention to a variety of crops is reasonably sure of making good on most of them. When all of his efforts are directed toward the dairy, it is possible that unforeseen conditions may cause him serious losses, such as tuberculosis or other diseases getting into the herd. When he gives all his time to his corn, a bad season may bring him close to bankruptcy.

The general farmer is probably busier all the time than the specialist. When one crop is being harvested, another must be prepared for or cultivated and thus his time is always taken up.

The general farmer as a rule has a comparatively small number of milch cows, usually only enough for home use and for raising young stock. The farm on

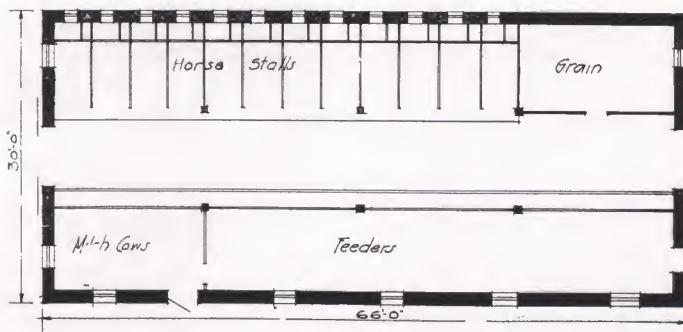
Ample Capacity for Large Farm

which the above barn is found is largely given to potatoes, and other cultivated crops, while considerable attention is also given to raising and fattening stock for the market.

The plan of the basement readily explains itself; the main floor is used for the storage of grain, hay and other crops until they are used or taken to market.

Certain-teed Roll Roofing is shown on this roof. This is the ideal material to use in a wind-swept prairie country where the roof must be made air-tight as well as water-tight. *Certain-teed* Roofing is preferable to the present day wooden shingles, as the initial cost, labor and cost of applying are much less, it is much more durable—guaranteed 15 years—but will last much longer.

Showing Floor Plan for Barn





Two Well-Planned Barns

Designed by The Radford Architectural Co., Chicago

HERE we have plans and views of two modern, nicely arranged barns—a large general farm barn, and a small dairy barn. This latter is a model barn to accommodate twenty-four cows. There is a creamery, delivery room, shop and granary separated from the stable by a solid partition. A silo is also connected with the barn.

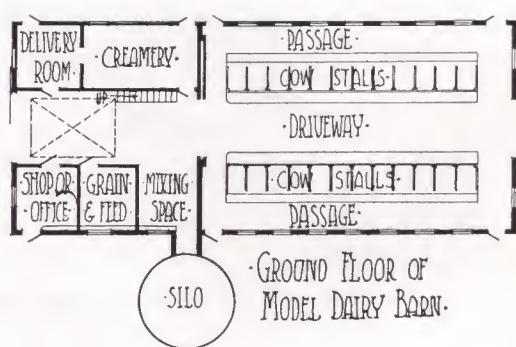
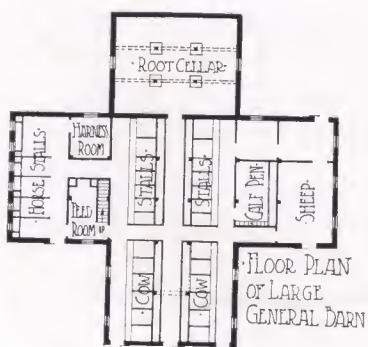
Taken all in all this is a most admirable arrangement, permitting excellent facilities for feeding, lighting, ventilation and care of the milk to the exclusion of all foreign matter or odors. A separate creamery and delivery room are absolute necessities and must be kept scrupulously clean if the business is to rank high on inspection. The driveway permits having a large feed box on wheels which may be pushed back and forth to the silo and feed mixing room. This barn was fronted toward the prevailing winds so the draft would be from the creamery end out through the stable.

As a warm and weatherproof roofing is an absolute necessity on a barn, *Certain-teed* Roll Roofing was

selected for both of these structures as meeting these requirements and having additional qualifications of being lasting and practically fireproof. *Certain-teed* Roofing is guaranteed to last fifteen years. It may be had either in the roll which is slate gray in color or in shingles colored red, green or slate gray.

The large general farm barn is well laid out to accommodate all the branches of activity on a good sized farm. This is a gambrel roof barn built in the form of a cross. *Certain-teed* Roofing is the thing for large, expensive farm buildings.

The construction of this barn is frame on a stone foundation taken below the frost line. This allows a concrete floor to be laid without danger of cracking or upheaval from moisture or frost. It should be remembered that the finishing layer, in thickness about one inch, should be marked off into diamonds or squares as a hard smooth cement floor is dangerously slippery.





Model Stable With Silos

THE barn illustrated is 38 feet 6 inches by 140 feet, and is large enough to shelter fifty-two cows. The details of construction are worth following, for this building was put up to give the necessary comforts to a herd of thoroughbreds.

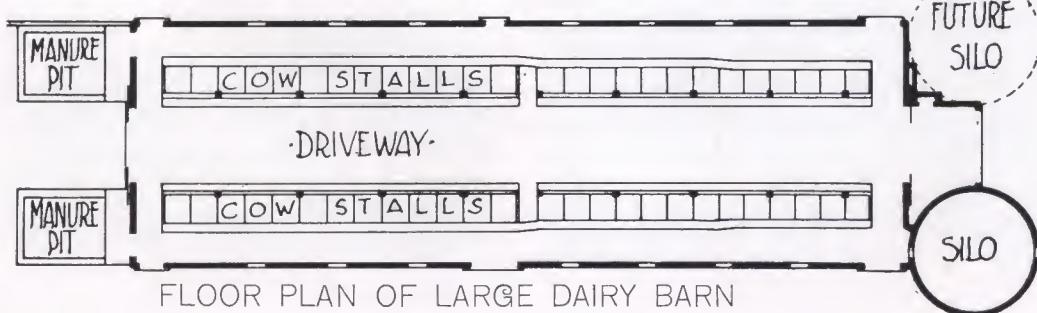
The mangers, manure drains, and every bit of flooring is made of concrete. The floor is roughened to prevent the cattle from slipping. Manure drains carry the liquid manure back to the manure pits and are also connected with the sewer drain so that water from flooding the floors can be carried away. The mangers connect with the sewer, an arrangement that permits watering the cows in the manger. A space two feet high between the studding of the outer walls is filled with concrete and troweled smooth with a curve at the floor line preventing the accumulation of dirt in the cracks.

Ideal for Dairy Farms

Sanitary, galvanized stanchions set firmly in the cement, are used. Each stall is furnished with an individual wrought iron hayrack made to swing up. The stalls face toward the center; and the aisle between is large enough to allow a wagon of loose hay to pass through. Silos are located at one end of the building, the silage being loaded into wheeled boxes which can be pushed through the aisle to the mangers.

Light and ventilation have been carefully attended to, as plenty of fresh air for each animal is necessary to keep the herd healthy.

As will be seen from the sketch, *Certain-teed* Roll Roofing was applied with good effect, giving a continuous roof that will stand any test of sun, wind or rain without drying out or cracking. *Certain-teed* is backed by the manufacturer as being far superior to the old style coal-tar paper roofing; and a liberal 15-year guarantee covers its wearing qualities.





Silos and Silo Construction

THE dairy industry owes a great deal to the modern silo. Although a comparatively recent development, it has taken a firm hold, and as it produces results, it is extending very rapidly. Through the use of a silo the farmer is able to keep more than double the number of cattle on the same farm and his earnings are consequently greatly increased.

In construction a silo must be absolutely air-tight. The ripening of ensilage is caused by a partial fermentation, and reaches perfection only when a minimum of air is present. For this reason the ensilage must be packed down tightly and evenly all around.



Well-built Wooden Silo

Silage Increases Milk Production

Silos are of several forms of construction, from wood stave to solid concrete or masonry. Each form of silo has its advocates who are quick to point out defects in other forms of construction, but the main requirement is that the silo preserve the contents, and this can only be done by being absolutely air and water tight. An excellent way to do this is to line the silos, as well as cover the outside, with *Certain-teed* Roll Roofing.

We show at the top of this page two silos as they would appear built of wood covered with *Certain-teed* Roofing. At the bottom are seen other forms of wood stave silos.

The size of the silo depends to a certain extent upon the number of cattle one is feeding. A dairy cow will consume from thirty to fifty pounds of silage a day, and silage weighs about fifty pounds to the cubic foot. From this we can easily figure the size required for a given number of cows.

Certain-teed Roll Roofing is advisable for silos as it can be cut to any desired shape and will fit the conical top without waste of materials.



Putting in the green corn



Well-Arranged Hog House

*Recommended by J. A. Warren, of the
U. S. Department of Agriculture*

ONE of the most complete and well-arranged hog houses that has ever been built is shown in the accompanying sketch and plan. This type of structure is recommended by Mr. J. A. Warren of the United States Department of Agriculture in his Bulletin on Hog Houses.

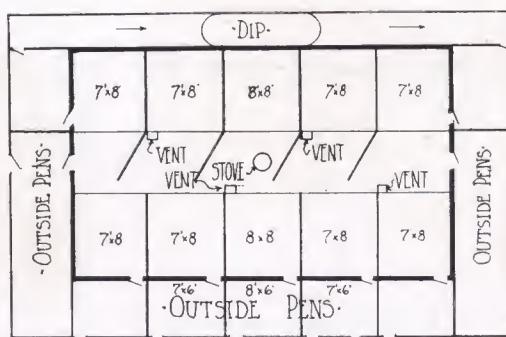
The walls are sheathed, papered and sided. This house should face east and west. It is 22 by 36 feet in size and was built at an approximate cost of \$275. A noticeable feature shown in the plan is the arrangement whereby outside pens have been provided on all sides except the north. The middle pens inside measure 8 by 8 feet, the others being 7 by 8 feet. The hog doors are 22½ by 31 inches in the clear, the large doors measuring 3 by 6 feet divided in the middle. The upper windows being set solid and close together, have four 12 by 14 inch lights each. The lower windows each contain four 10 by 12 inch-lights. The sunshine will strike the floor in all pens for several hours each day by March 1st. This is most important,

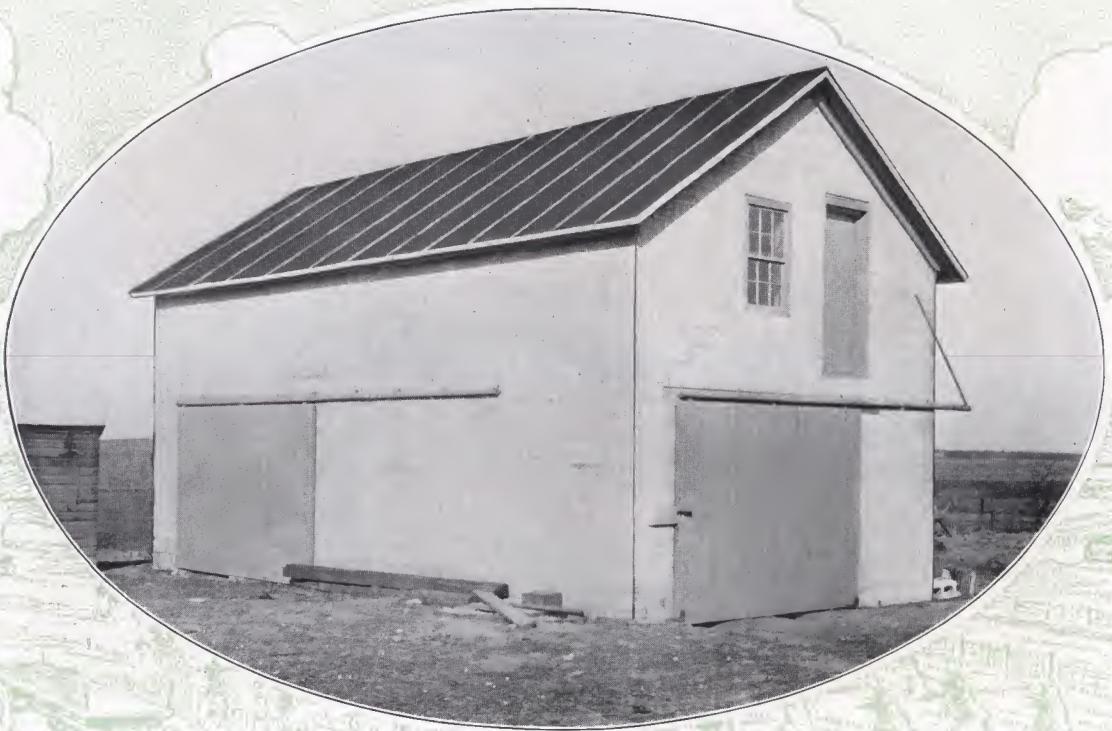
as plenty of warmth and light are required at farrowing time, which should come at about this date. The little pigs take cold very easily and must be kept dry and warm and away from drafts.

Another necessary feature is the ventilation. This is provided for by four ventilators 6 by 6 inches inside. The upper ends are just above the roof combing, and the ventilator proper extends downward—the base being about two feet above the floor. The gates across the alley all lift off their hinges so they can be removed or replaced quickly. This is very convenient in sorting hogs or changing them from one pen to another. The free ends of the gates fasten with ordinary door bolts.

The cost of this building can be greatly reduced by using wood sheathing covered with *Certain-teed* Roll Roofing. *Certain-teed* is also used as the roof covering. The material is less expensive than wooden shingles or siding and easier to apply. It is highly recommended.

This arrangement makes feeding and care easy for the help





A Concrete Tool House

THE cost of tools and machinery would almost make one think that they would be given the best of care. But often, however, we see them exposed to the weather the entire winter, or perhaps throughout the entire year.

The fact that such a large percentage of the machinery is allowed to stand in the open is partly, but not wholly, explained by the marked scarcity of suitable buildings and sheds upon the farm. In a large number of cases the housing consists of "going through the motions" rather than actually preparing the machinery for storage and then properly storing it in a suitable shelter.

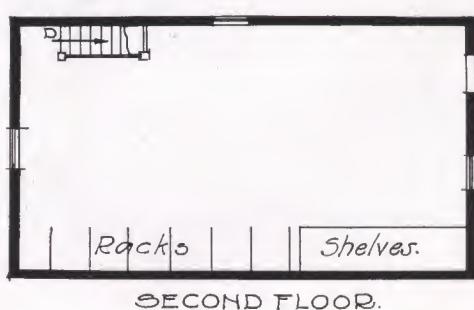
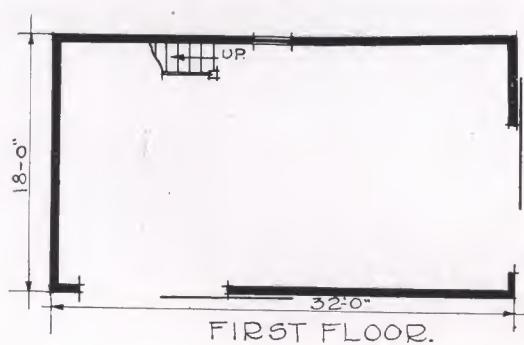
Farm machinery and tools must be well selected, properly housed, kept in good repair and adjustment, oiled thoroughly and cleaned before housing. All wearing parts must be greased well when not in use, and painted when necessary. At least one-half of "good care" consists in keeping the machinery properly

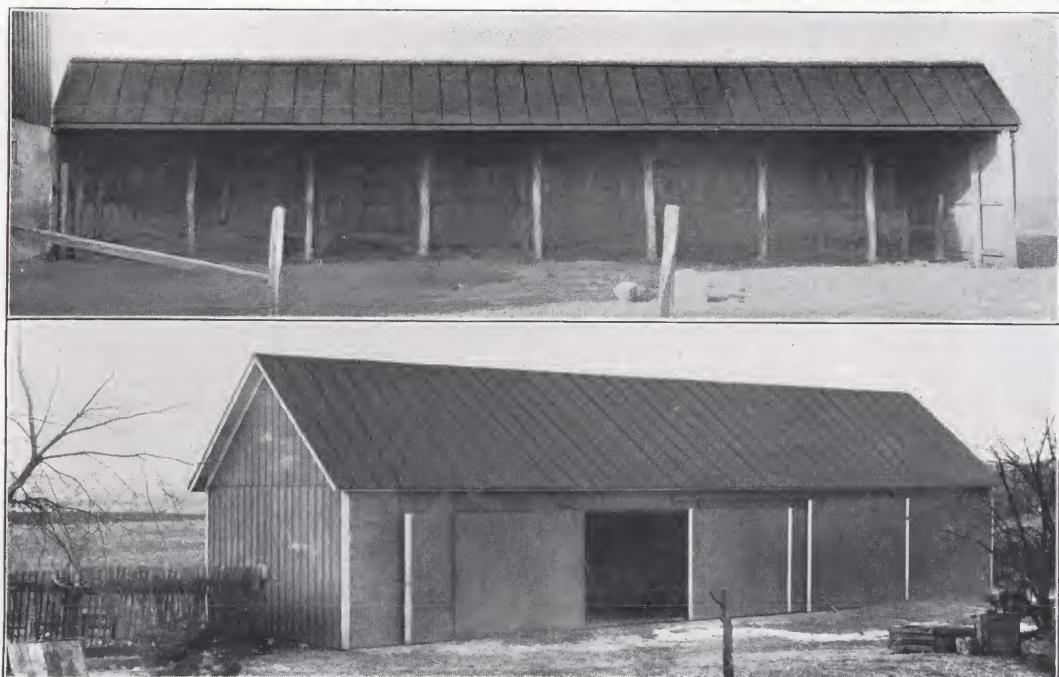
Protects Expensive Equipment

repaired, in good adjustment, and thoroughly oiled when used. To neglect any of the lines of care mentioned, means serious damage and loss to the machine. It is evident that only a very small percentage of farmers in any county properly care for their machinery.

The tool house shown above is simple in construction, being built of eight-inch cement blocks. In plan it is eighteen feet by thirty-two feet, two stories in height. The two large doors admit large wagons and machinery, such as self-binders, etc., to be housed, when not in use. The second floor is used for the storage of small tools and machinery which can be readily taken up the stairs or through the large door in the end. The owner of this building also uses it as a workshop.

The use of *Certain-teed* Roll Roofing provides a safe storage for these goods and a warm place to work in during the cold weather.





Wagon and Machinery Sheds

Built near Wheaton, Ill.

THE prudent farmer provides if anything an excess of space for storing the wagons, plows, cultivators and other machinery. Some of these can be placed back out of the way when they are subject to use only once a year or so, while others, being used daily, are kept in the foreground. The wagon house shown in the lower panel is a good example of what a large farmer finds useful. As will be seen, the entire front is made of doors, any one of which can be opened to take out the desired machinery.

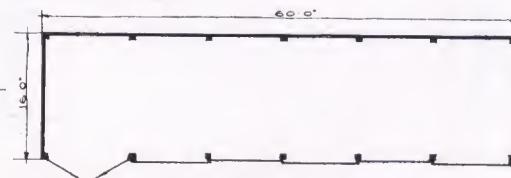
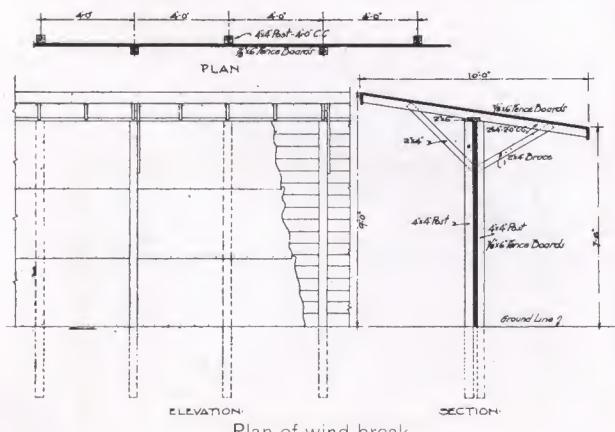
Farm machinery should be carefully selected, kept in good repair and adjustment, thoroughly oiled and cleaned while in use. When put away for the winter all working parts should be well greased, the exposed

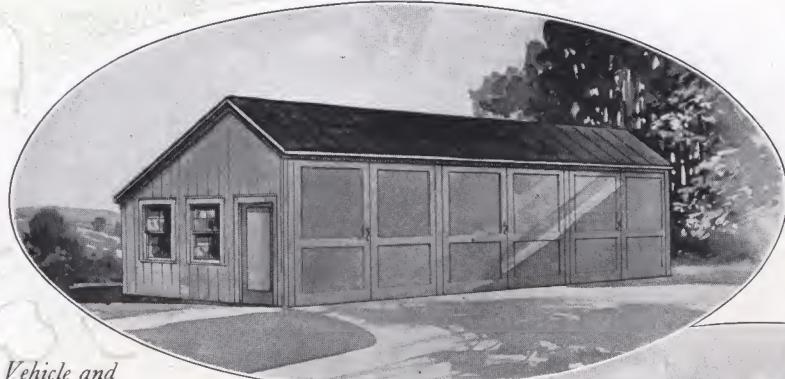
portions painted, if necessary. Neglect of these precautions means serious damage and loss to the machine.

To house machinery is not always enough. Unless the roof is tight, it will be damaged almost as much inside as if left in a fence corner. *Certain-teed Roofing* is the final safeguard in a building like this, and saves its cost many times a year through having the tools, machinery, wagons, etc., dry and in perfect condition when wanted.

In the upper panel is shown an open shed for temporary storage, or for use during the summer months, when the exposure is not so severe. A shelter of this character is also excellent the year around for cattle, as by its use they are kept from the cold wind, and they will of themselves seek such a shelter when inclement weather comes.

The wind-break, shown in the large floor plan at the left, has 4x4 posts, staggered. Through these flooring is run and both sides covered with *Certain-teed Roofing*, making an effective shelter for all seasons. A wind-break for sheltering cattle can be built at a low cost by laying Roofing over wire netting as described on page 11.





*Vehicle and
Implement Shed*

*Shelter Shed and Corral
for Stock*



Two Shelter Sheds

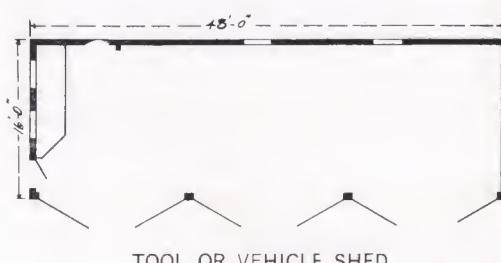
THE care of farming implements is a thing usually neglected and yet the expense caused on account of such neglect is enormous. Machines that have cost hard earned dollars are drawn under a tree, a rude lean-to, or a leaky shed—and left to weather the winter as best they can. It is false economy for the farmer to attempt to do without a proper storehouse for his implements. With proper housing the machines are saved from the ravages of rust and moisture, and with ordinary care can be made to do satisfactory work for years.

An implement shed sixteen feet wide by forty-eight feet long is shown. This size shed will accommodate the implements and machinery used on an ordinary farm and leave plenty of room for a work bench. The front of the shed is all doors, so that any part of the shed may be opened and any implement removed without having to haul out several others before the

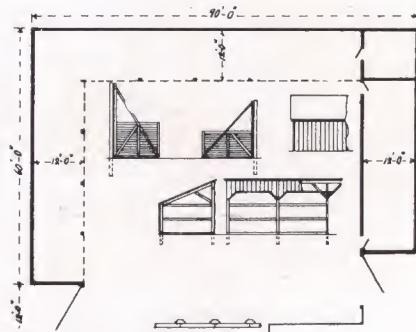
desired one is reached. Anyone can easily repair a piece of machinery, oil or paint it if he has the tools and a comfortable place to work. In fact, such work would prove most welcome to any farmer during the winter months.

A design for a cattle shed is also shown. This faces south and is enclosed on the east, west and north sides, providing an open space for herding the cattle. One side can be completely enclosed for extra protection during inclement weather.

Shelter sheds and other farm buildings can be easily and quickly constructed with *Certain-teed Roofing*. Sheathing Boards are not always necessary, as it can be applied over wire netting. See article on pages 11 and 35. It is the cheapest good roofing on the market. It is warm, waterproof and guaranteed for fifteen years. All farmers will find it profitable to investigate *Certain-teed Roofing*.



TOOL OR VEHICLE SHED



*PLAN AND
DETAILS
OF
SHELTER
SHED.*



Corncrib and Hog House

FARM buildings should be grouped in order to reduce the labor of caring for the various stock on the farm. The steps saved by the farmer amount to considerable when the buildings are arranged conveniently. In the winter the work of clearing paths to the various buildings takes up a great deal of time, which would otherwise be saved were a little attention paid to the arrangement of the buildings in the first place. In some sections of the country, it was formerly the custom to place the house on one side of the street and the barns and other farm buildings across the street. This meant a considerable separation and is a plan not to be recommended.

In the above illustration is shown a modern concrete block hog house and closely adjoining it a corncrib. The plan at the bottom of the page shows the

Arranged to Save Labor

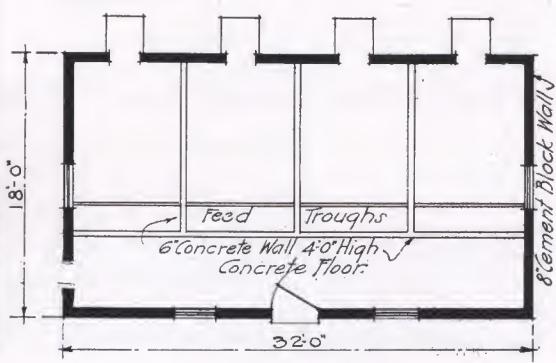
arrangement of the four pens, the partitions of which are built up of concrete blocks, which with the concrete floor make it possible to wash out the entire building with a hose as frequently as is required. There is no doubt but that the hogs appreciate the clean, dry quarters which a building like this provides, and the return to the farmer is correspondingly greater.

We have shown on this roof *Certain-teed* Roll Roofing, which is particularly adaptable to farm buildings. *Certain-teed* Roofing costs less than wood shingles and is inexpensive to buy and put on.

It will be noted that the sides of the corncrib pitch out slightly to prevent any rain reaching the grain. The sides of the corncrib are slatted to permit seasoning and drying, but the roof must be tight as the rain must be excluded if the corn is to be kept in first-class condition.



An Imposing English Barn





A Sanitary Poultry House

Designed by The Radford Architectural Co., Chicago

THE adoption of sanitary measures in housing chickens is very essential if the fowls are to be kept healthy. Any means that will further their comfort either by warmth, light, or heat is amply justified by the increased production of eggs. Government experts have proven beyond any doubt that rigid measures ought to be used in the erection and care of chicken houses. The design shown embodies the necessary features incidental to their proper care.

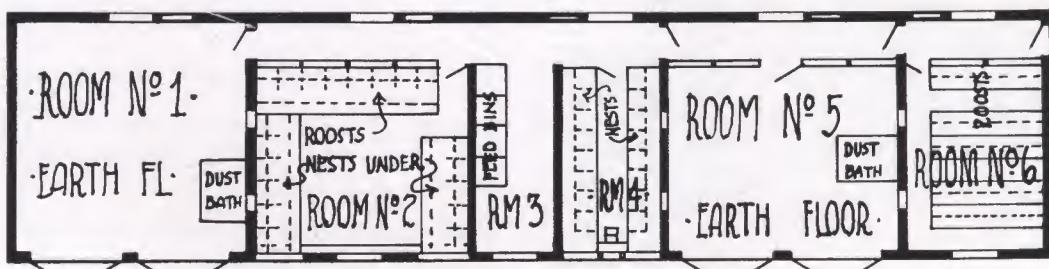
Two large rooms with dirt floors provide places for scratching and exercising during the winter, or in stormy weather. In the feed, nest, and roost room removable boards are placed under the roost to receive the droppings. The nest sections are removable through doors opposite each section, providing a means of airing and cleaning the nests. The nests are elevated about twenty inches, so that the feed troughs placed under them may be easily reached. A slanting

roof covers the nests, preventing the fowls from roosting on them. A room for feed storage is provided.

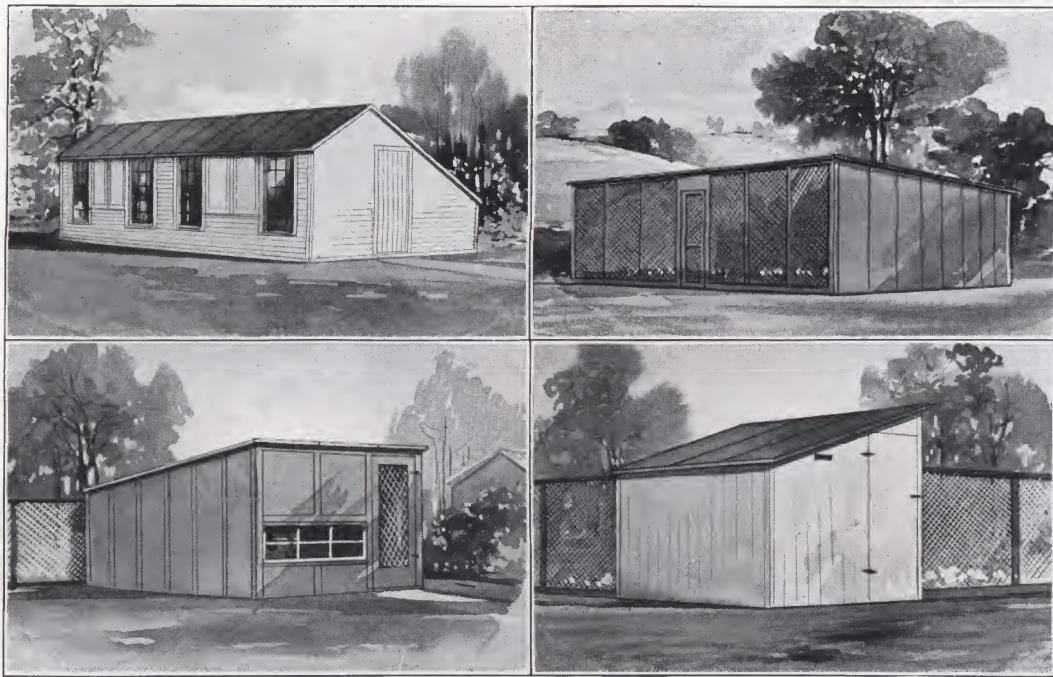
All the floors are double, and *Certain-teed* Black Insulating Paper should be used between; and the side walls *Certain-teed* Sheathing Paper, both inside and outside the studding. The space between the ceiling and the roof is filled with straw during the winter; and, as the ceiling boards are placed two inches apart, a free upward circulation of air through the ceiling straw and ventilators is assured.

Plenty of light is afforded by a clever window arrangement. As the building faces north and south, the north windows must in winter be protected by double sash.

Certain-teed Roofing is recommended for use on this carefully designed poultry house. Chicken fanciers have found it the very thing for poultry houses—providing a warm, waterproof, and durable roof.



PLAN OF CHICKEN HOUSE



Four Small Poultry Houses

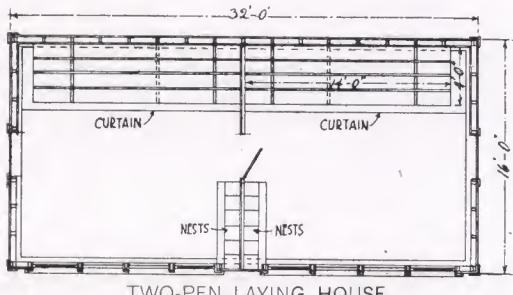
Designed by J. G. Halpin and C. A. Ocock of the University of Wisconsin Agricultural Experiment Station.

EVERYTHING necessary to the health and comfort of the chickens has been carefully considered in planning the houses shown here. There are four of these—perspective views are shown above and corresponding plan diagrams below. They are a two-pen laying house for a small flock, a scratching shed poultry house, a portable chicken house, and a city man's chicken house.

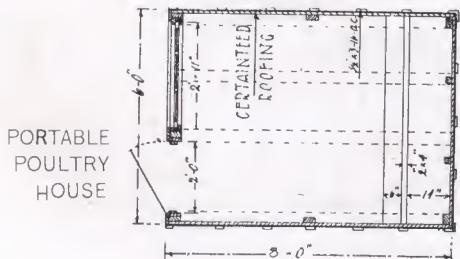
The house should be built on ground that is dry and well drained. Wet places should be ditched and drained. A wet location makes a very unsatisfactory place for feeding; and, because the hens' feet become

soiled, dirty and wet floors, as well as dirty nests and eggs, are the result. In order to make the hens comfortable the house must be free from drafts, dampness, bad odors or foul air; and when you build plan to do away with them.

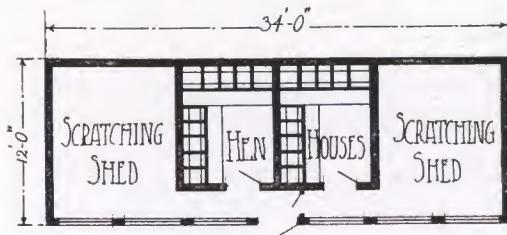
In Bulletin 215 the University of Wisconsin Agricultural Experiment Station recommends that prepared roofing be used instead of shingles. The bulletin quoted says that such roofing is very satisfactory, cheaper and more advisable than shingles. *Certain-teed* Roll Roofing for this purpose will prove superior to any on the market.



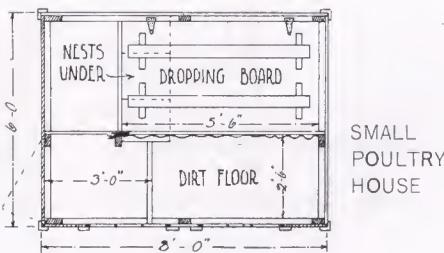
TWO-PEN LAYING HOUSE



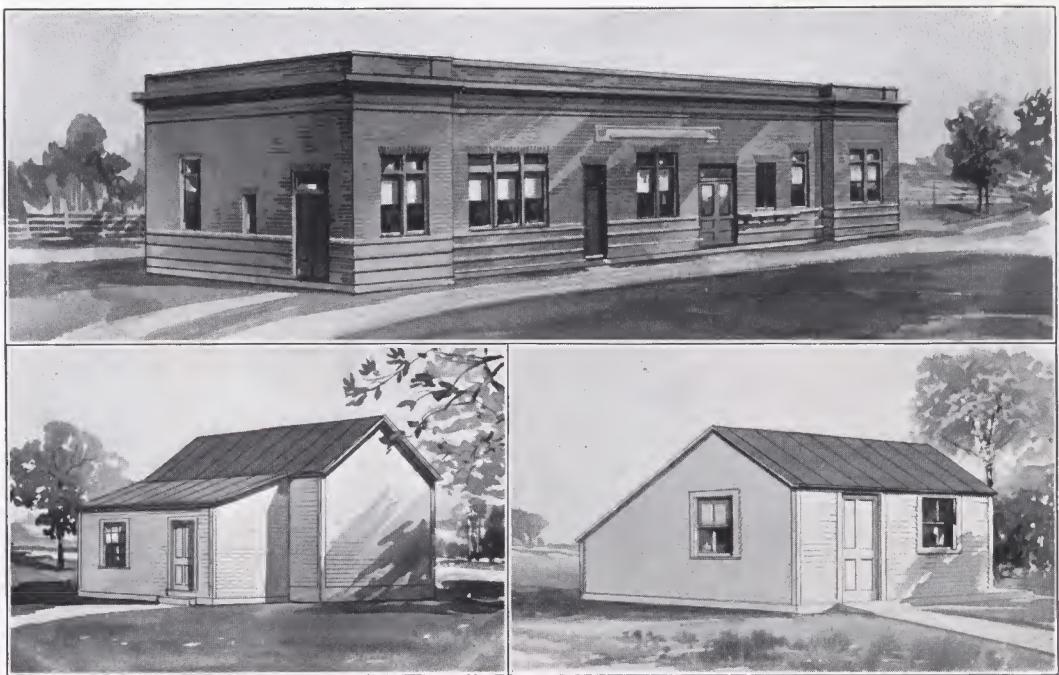
PORTABLE POULTRY HOUSE



FLOOR PLAN OF CHICKEN HOUSE



SMALL POULTRY HOUSE



Three Dairy Buildings

*Designed by Ed. H. Webster, Chief of Dairy Division,
Bureau of Animal Industry, U. S. Dept. of Agriculture.*

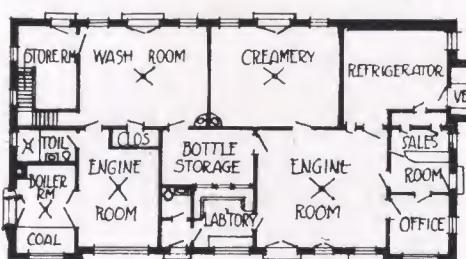
DAIRY Farming has become a science—the science of cleanliness, top-notch products and profit. If the farmer aims to rank high on inspection and to protect his product from contamination with foreign matter or odors, it is of prime importance that he have a suitable building in which the milk can be taken care of in a perfectly sanitary way.

Years of investigation by experts of the conditions surrounding dairy farming have tended toward the elimination of diseased cows and unclean milk prepared for market in an unclean way. The consumer is now educated to demand pure milk and is willing to pay more for milk that he is sure is clean. With suitable facilities the farmer can fill this demand with only a little more trouble.

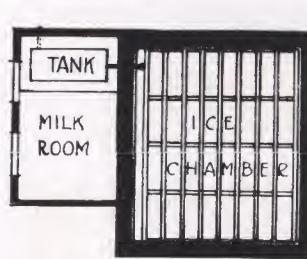
The designs shown here were planned by the United States Department of Agriculture and are strongly recommended by them. Floor plan is shown of a small

dairy house suitable for a dairy of twenty cows; also of a larger and more fully equipped building for a town or city milk plant. The ice house and milk room shown should also interest dairy farmers. The design is inexpensive. The cold water draining from the ice chamber flows into the cooling tank. Cement floors should be used in all dairy houses. It is not necessary to give details of these buildings, as a glance at the plans will inform the reader of their merits and just how they are laid out.

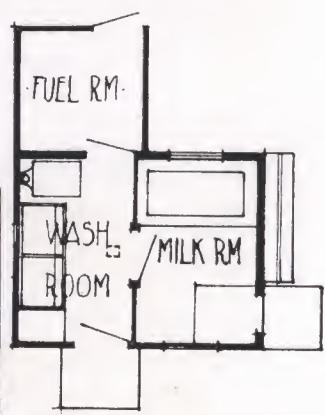
The roofs of these houses are of special importance as they must be dust and moisture-proof. *Certain-teed* Roll Roofing, which may be had from any reliable dealer, is inexpensive and provides the best kind of a roof for this or any other kind of farm building.



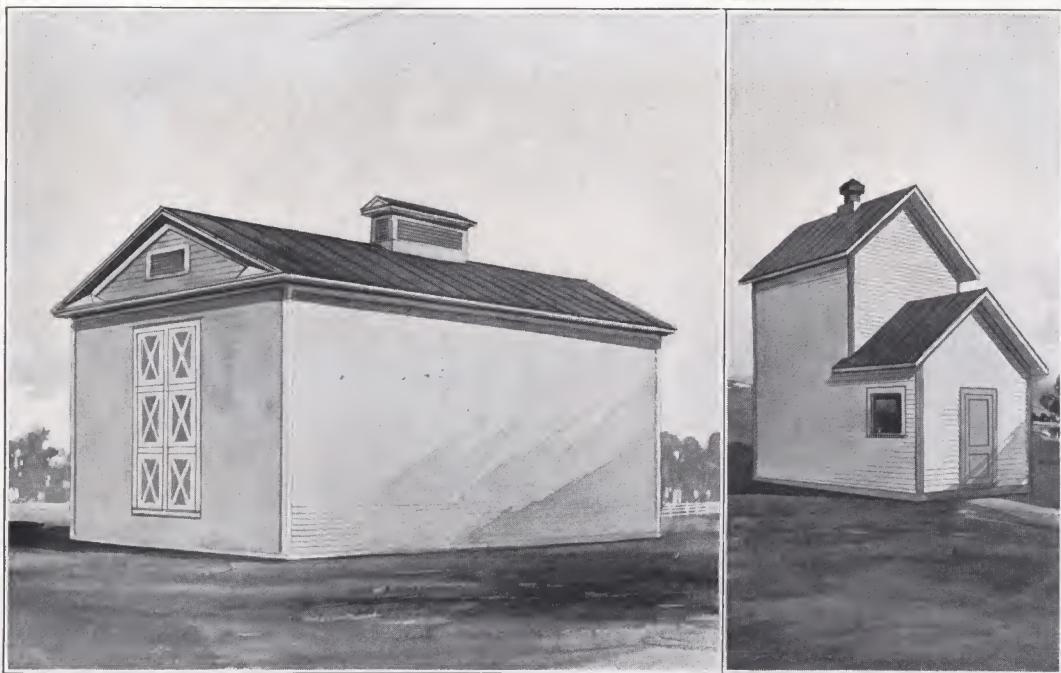
FLOOR PLAN OF CREAMERY & MILK PLANT.



ICE HOUSE & MILK RM.



SMALL DAIRY HOUSE.



Ice House—Cold Storage Plant

THE important factor in storing ice is the careful consideration given to insulating the contents of the storehouse from the outside air influences.

The walls of the large ice house here shown have two distinct and separate dead air spaces. The construction, working from the inside outwards, consists of a soft pine sheathing, a fibrous insulating material, and another pine sheathing. Then comes the first dead air space between 2 x 4 studs. Pine sheathing and the insulating material again follow and another air space similar to the first. The outside wall is made from pine sheathing, black building paper, and a good matched siding. The doors each have a dead air space and additional air chamber between the door and the inside boarding. The floor is made of two-inch planks laid two inches apart on sleepers imbedded in crushed stone.

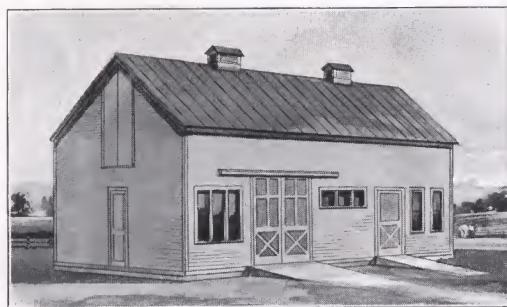
The other illustration shows a practical cold storage

Modern Farm Necessity

plant either for community or individual storage. This type was designed and is recommended by the Ontario Department of Agriculture as a suitable means by which the farmer can take care of butter, eggs, milk, vegetables, or fruit before marketing. The plant consists of a refrigerating room and an ice chamber.

Construction consists of double inside sheathing with building paper between and an outside sheathing, then building paper and matched siding. The inter-wall space is packed with sawdust. The refrigerator is fitted with four-ply windows. Flues for the circulation of air are provided between the refrigerator and ice house. The warm air from the refrigerator passes up the flues and over the surface of the ice seeping down through the cakes to the cold air flue at the bottom from which it passes back to the refrigerator. A constant circulation is kept up.

For ice houses or storage plants there is no better roofing than *Certain-teed*.



Barn to match ice house



Floor plan of cold storage plant
on right



Lumber and Supply Building

Businesslike and Commodious

HERE we have some good suggestions for our friends, the lumber and builders' supply dealers, with reference to a model lumber shed and building material warehouse.

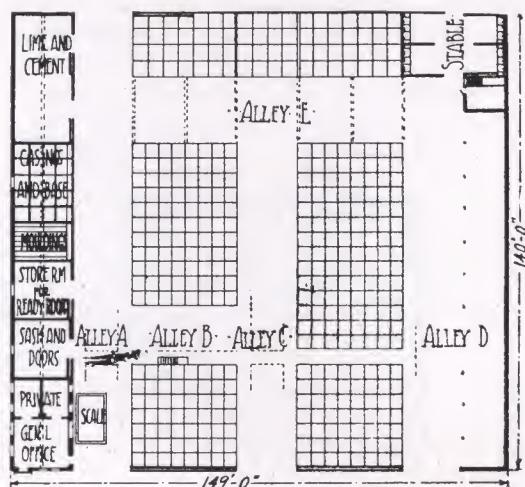
The cost of material has increased so much during late years that more care is necessary to do away with the little wastes that eat up the profits. In previous years, when everything was cheaper, dealers used to pile the stuff on the ground with no other protection than the blue sky which presently changed to a pretty stormy one. After a while the sun came out hot and strong. Then the lumber warped, and the knots

loosened so that when the time came to sell the lumber there were a good many boards that had to be relegated to use in second class work. With proper shelter the lumber would weather a little more slowly but with less waste.

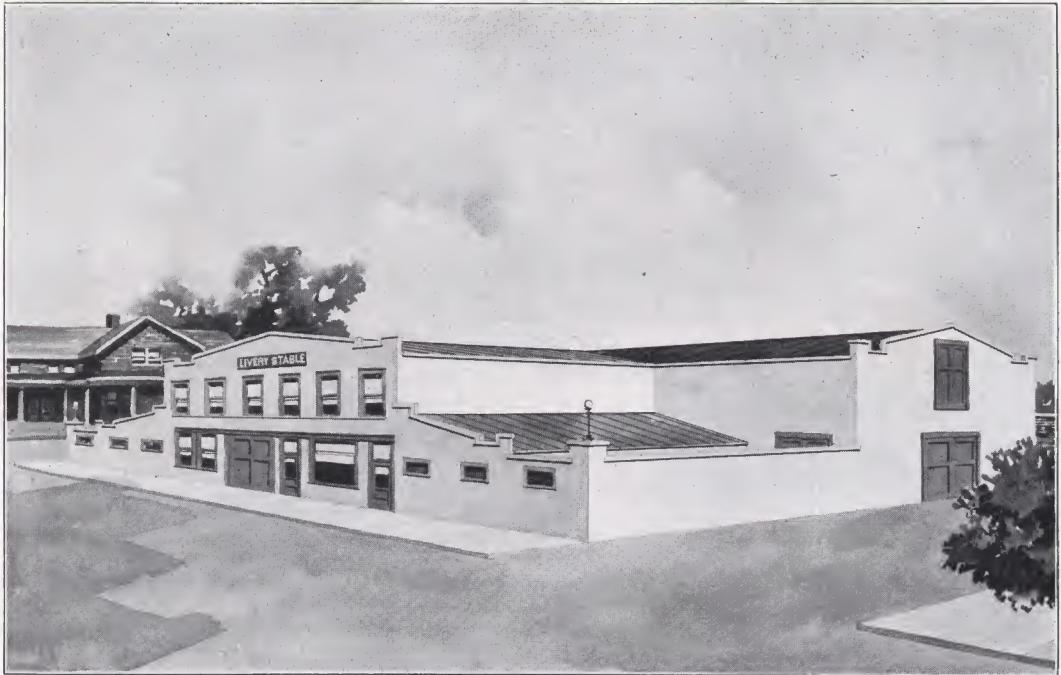
Also in these days it won't do to spread a few boards over the piles of lime and cement and trust to luck that none of it will get wet. Your good luck may hold during fair weather; but it'll change with the first rain.

So, the design given here provides accommodations for everything an up-to-date building material dealer has in his supply yard—lumber, sash and doors, ready-roofing, moulding, lime, cement, plaster, clay products, and specialties. Stables, granary and offices are also provided. You will find this a most convenient arrangement.

And while we're about it let us remind you not to forget keeping that ready-roofing room well stocked with *Certain-teed* Roll Roofing and Shingles. You're bound to have all kinds of demands for these dependable products because people recognize in them the best and most durable to be had. And when you build this supply shed use *Certain-teed* on the roof. You'll be well satisfied.



PLAN OF LUMBER AND SUPPLY BUILDING



An Approved Livery Stable

Imposing and Well Arranged

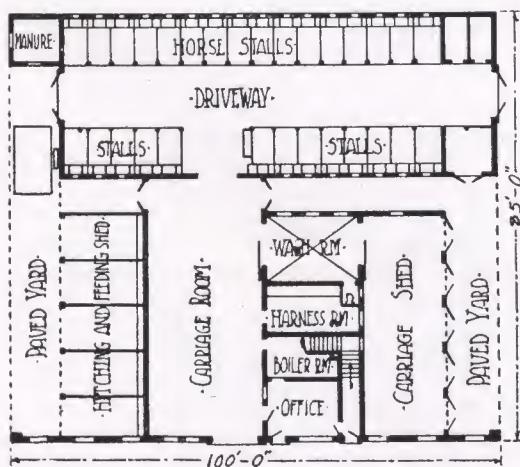
THIS stable is of frame construction built on a concrete foundation and has a concrete floor throughout. The front of the building contains the office, carriage, harness, and boiler rooms. Hitching and carriage sheds are provided on either side of these rooms. This part of the building is separated from the stable by a cement fireproof wall and a fireproof door. The boiler room has brick walls, fireproof doors, cement floor and ceiling—the danger of fire thus being reduced to a minimum.

The stalls, of which there are thirty, including a box-stall for sick horses, have removable plank floors laid

on the cement. The top of each stall is seven feet above the floor. Each stall has a manger and feed box, and between every two stalls is a galvanized iron chute leading from the feed loft. A good scheme was developed in filling the mangers and feed boxes with about four inches of cement and covering the front edge of the manger with strap iron fastened with countersunk screws. At one end of the back row of stalls is a manure pit and at the other, two feed bins. Double doors open on the alley and a single door on the driveway.

The second floor provides plenty of room for hay and bedding as well as a neat apartment consisting of parlor, living room, dining room, kitchen, and bath, also three bedrooms.

Certain-teed Roofing was selected as the most satisfactory for this building. It is said, "The proof of the pudding is in the eating," so in the same way the proof that a roofing is all that is said of it is to put it on and let Mr. Sun, Mr. Wind and Mr. Rain rip and tear at it. There is no other satisfactory test; and *Certain-teed* stands highest for wearing qualities.



FLOOR PLAN OF
LIVERY STABLE



Rural School of Great Beauty

Seating Capacity 100

THE day of the barn-like, ramshackle schoolhouse is past; and every community is now devoting its attention to the comfortable housing of the pupils. Beauty of design and harmonious surroundings are clamoring for attention and are considered strong incentives to better attendance and work on the part of school children.

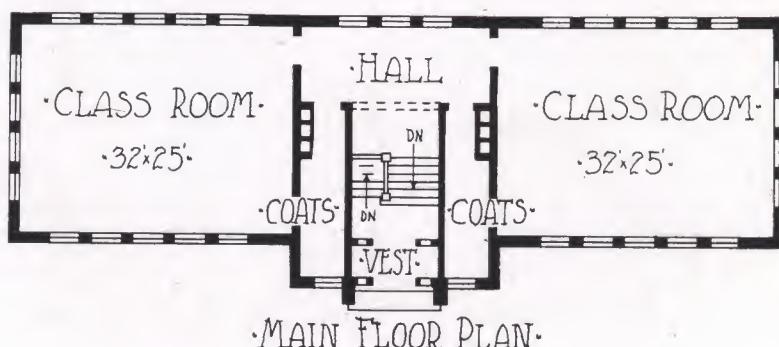
Here is a school designed by G. W. Ashby, Architect, of Chicago, that is substantial, fireproof, easily heated, attractive in every respect and a credit to any school district. The interior arrangement provides space for two large class-rooms lighted from one side and the front, so that the light can come from the left and also over the pupils' shoulder. The front door opens into a vestibule from which a short stairway leads to the hall. On each side of the stairway are the cloak rooms.

The structure consists of a high brick foundation surmounted by walls of common brick, cement plaster

coated. The window and door casings are face brick. Under the gable surmounting the doorway the stucco is finished in Elizabethan paneling. The roof is covered with red *Certain-teed* shingles.

Can anything more beautiful than this combination be imagined? Here you have the "homiest" looking little school possible. The red brick foundation, the gray stucco trimmed with the rich face bricks, and the red shingled roof blend nicely with the green of the lawns and surrounding trees, producing a most striking and pleasant color harmony.

The *Certain-teed* shingles are a modern material, and their use is growing by leaps and bounds, preserving the beautiful harmony as long as they last. They are so easy to apply, so cheap and durable compared to other brands that it is no wonder they are becoming most universally used. Say to your dealer "*Certain-teed* Shingles" and he'll know you are one who recognizes quality above everything.





A Model City School

Designed by G. W. Ashby, Architect, Chicago

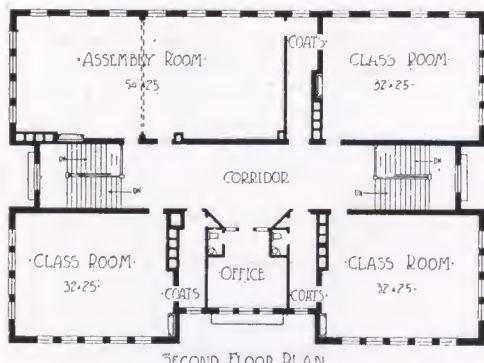
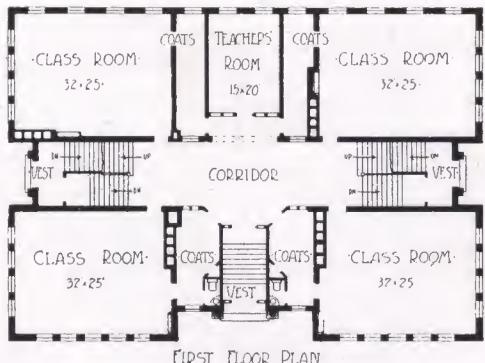
THE new Columbus School at Cicero, Ill., recently completed, is an example of the very latest ideas in schoolhouse designing. It is a modern seven-room brick schoolhouse, the type of building that should have a flat *Certain-teed* Specification roof. It shows one of the approved arrangements of interior space. Rough texture face brick was used, the predominating colors being warm browns and greenish reds; trimmings are of white Bedford dressed stone. Ornamental panels between first and second story window groups are formed by laying the brick in herringbone bond.

Entrance is made from the front or either of the sides into the corridor which runs the entire width of the building. The first floor provides four large class-rooms and a teachers' room, which is in the rear of the building and between the two class-rooms. Plenty of coat room is provided. Stairs of ample width lead from the corridor to the second floor, on which are

three class-rooms and a large assembly room. The principal's office is centrally located at the front.

The manner in which this school is laid out economizes in space and is charming in its simplicity. The exterior is a design which is being much copied for public buildings, as it gives a certain simple and bold effect much desired in such buildings.

Such a sturdy building ought to have the best roof it is possible to put on—*Certain-teed*. On all school, office or apartment buildings having flat roofs, when durable, weatherproof roofs are necessary, *Certain-teed* Specification Roofing is always elected best. And there are good reasons. This roofing is built up of several layers—each layer a complete roof in itself. It is the most modern method of roof construction, adopted and endorsed by leading architects and engineers, and is rapidly replacing the old style coal tar and gravel roofs.





Design for Town Hall

THIS is a well designed two story and basement structure that provides for all the requirements of the average town or small city hall. The design is dignified and substantial, entirely appropriate for a building of this kind. The building is gray face brick with Bedford cut stone trimmings. The roof is Certain-teed asphalt shingles of rich slate green color.

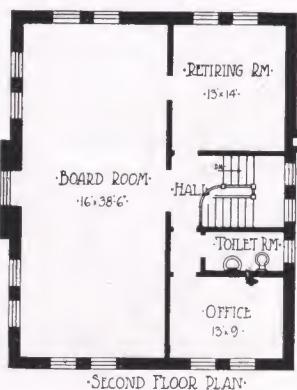
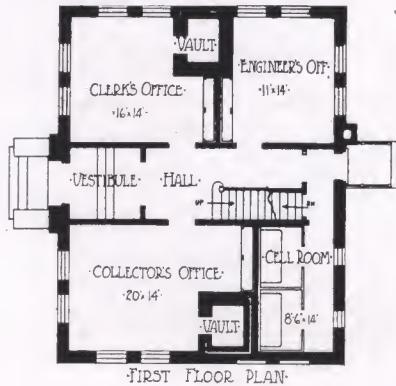
A glance at the floor plans will show how well the public officials are accommodated in this building. On the first floor to the right of the central hall is the collector's office, a large, well lighted room with fireproof vault for the safe keeping of records and currency. Immediately across the hall is the clerk's office, somewhat smaller in size but also provided with fireproof vault. The city engineer's office occupies the rear corner of the building, just back of the clerk's office. The back entrance gives direct access to the village lockup,

Designed by G. W. Ashby, Architect, Chicago

a two-cell room immediately back of the collector's office on this floor.

On the second floor half of the space is taken up by the Board Room. In the basement of this building, in addition to the usual space for the boiler and fuel room, storage room and toilet, there is a large space known as the "hobo room." The use to which this room may be put is suggested by the name.

This building was designed by Mr. G. W. Ashby, Architect, of Chicago, to be built in a moderate sized town. The ideas embodied in these plans may be used to very good advantage. A public building of any kind should be planned and built so as to be a source of pride to the community. This neat substantial structure of pressed brick and stone, with durable Certain-teed shingle roof, meets this requirement fully.





A Modern Factory Building

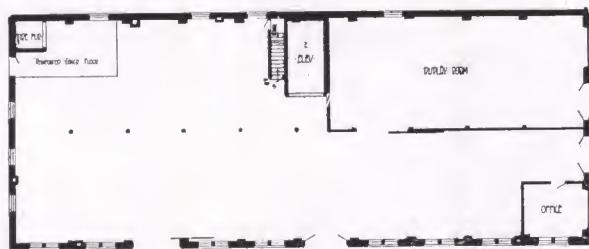
Designed by The Radford Architectural Co., Chicago

HERE is a small two-story factory building of an approved type much in demand at the present time for all kinds of manufacturing purposes. Manufacturing enterprises are not now flocking so much to the big cities as toward the smaller towns adjacent to favorable markets, where the reduced cost of production will allow distribution outside the home market and return a larger profit. It follows that in the small town offering inducements to manufacturers there should be a lively competition for the rental of such a building as is illustrated here.

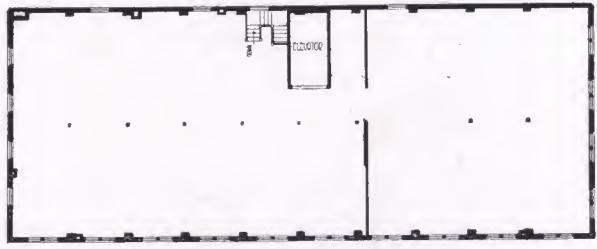
In this case the factory was built of brick, monotony of the front elevation being relieved by sunken brick panels on the dividing line between the first and second stories. Above the second story a large panel of stucco is used.

The placing of the numerous windows is conducive to an excellent distribution of light throughout the entire building. There has been a reformation in windows, whereby wired glass set in a metal frame is used; this good construction is in line with the use of *Certain-teed Roofing*. Naturally the building is largely fireproof as far as outside danger is concerned. Large doors well placed expedite the handling of the raw material or of the finished product. Space for office and display rooms may be partitioned off as required.

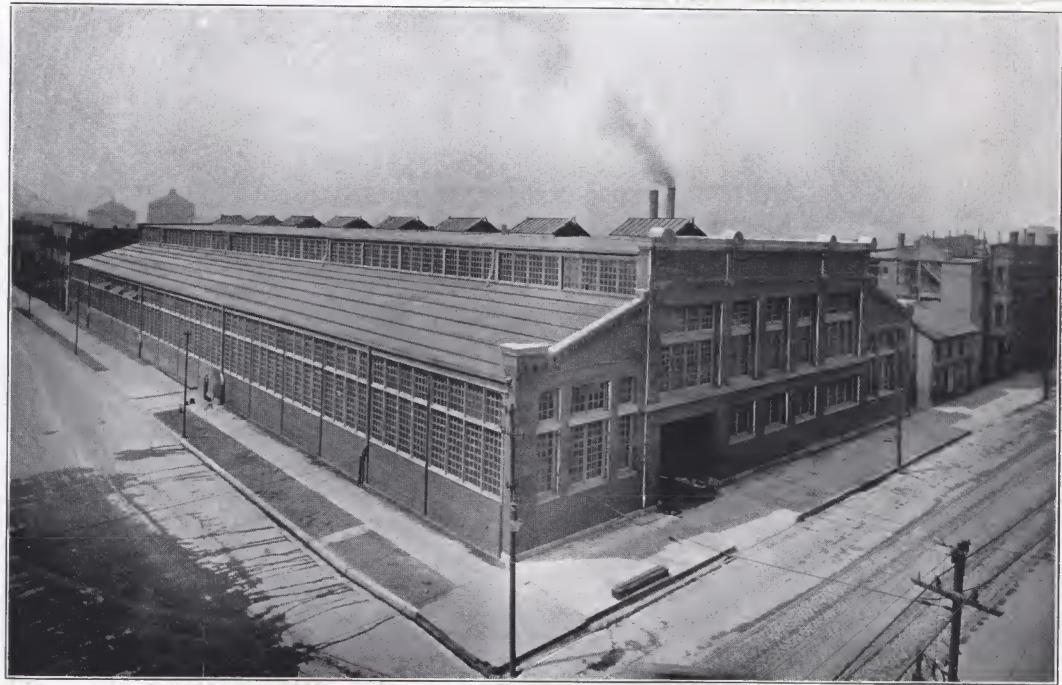
The roof is curved and covered with *Certain-teed Specification Roofing*, making the roof absolutely watertight and proving an effective retarder to heat and cold. This material is widely used on first class factory buildings. The effects of sun or rain will not in any way cause it to open up, crack, shove or run.



FIRST FLOOR PLAN



SECOND FLOOR PLAN



Factory Buildings

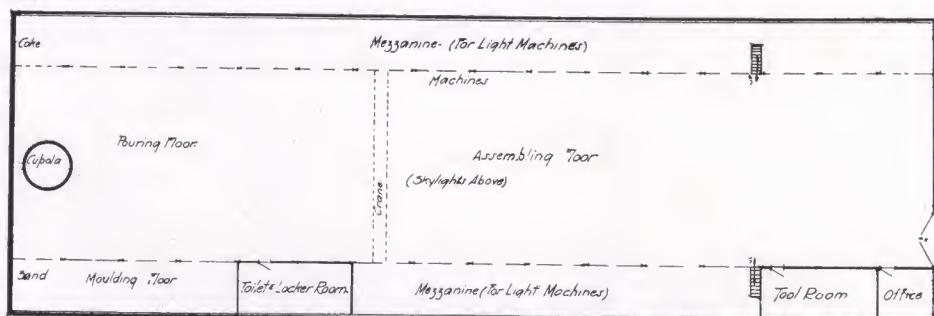
BUILDINGS designed for manufacturing purposes are subject to extremely hard usage. The photograph at the top of the page will indicate to some extent the nature of this extremely hard wear. Not only is the roof subject to the wind, rain, snow, heat and cold, but it is subject to the various foundry gases, cinders, smoke, etc. The cinders and dust which collect on the roof contain more or less sulphur and other chemicals which quickly attack all but the most impervious substances. If the roof is not of the very best materials, leaks and deterioration are sure to occur. Where a large boiler plant is in operation, there is the added hot water drip from the exhaust pipes, which tend to affect the roofing material.

The roof, when laid in accordance with the well-known *Certain-teed* Specifications, is proof against the action of all the above forces. It protects the contents of the building, not only temporarily, but for a long period of time.

Light, Large and Sanitary

One of the reasons for the industrial growth of large plants is the care taken in the planning of building and the planning of the work to be done in them. The progressive plants of today are very careful to lay out the entire shop equipment so that the materials passes through without going to the same machine or workman twice. Each machine is designed for its special work and each workman becomes a specialist on his particular machine.

The factory building must be designed with plenty of light and ventilation. Note the plan shown below, which gives practically ideal conditions for the workman. The heavy machinery can all be placed on the ground floor with suitable foundations, while the lighter machinery can be placed in the mezzanine. The overhead crane is designed to move heavy machinery from place to place.



GENERAL ARRANGEMENT OF FACTORY



A Fresh Air Hospital

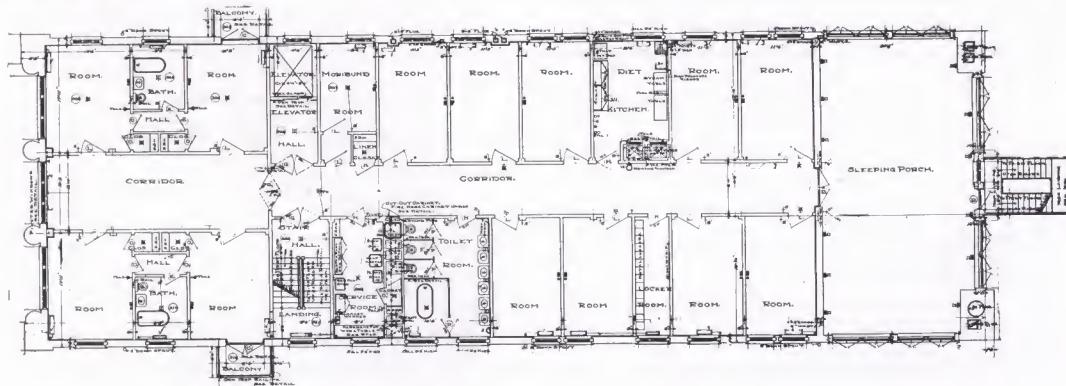
Meyer J. Sturm, Architect

SPESIALIZING is carried to an extreme in hospital construction. The architect in that line must practically be a medical specialist to secure the best results. Not only must the maximum number of patients be cared for, but it must be done at a minimum of expense, and a careful study of hospital practice shows one the best methods to secure results.

In the Chicago Fresh Air Hospital every effort is made to provide pure fresh air and plenty of it for every patient. Well ventilated sun parlors and roof gardens are supplemented by heating systems which regulate the temperature and humidity of the air. Diet kitchens for special cases supplement the general dining rooms. Each case must be given specific attention, and yet follow the same general treatment.

In the above hospital, it will be noted that the design permits plenty of sunlight and air for every corner of the institution; at the same time the various wings are closely connected with the administration building in the center. The power plant is in the rear, removed to prevent any chance of fire, thus no noise reaches the patients. For diseases of the lungs, for which fresh air is a necessity, the above plan is to be recommended.

The roof of a hospital must be laid with unusual care, as the lives of the inmates frequently depend upon its good condition. The *Certain-teed* Specifications insure that the very best wearing quality will be obtained and permit the use of roof as a promenade or roof garden.



General Arrangement of One Wing



Business Block for Small City

HERE we have a most worthy example of a business building combining simplicity and beauty of design with great practicability. It is just the sort of building that is most popular—the best renting—for the average thriving town or small city.

The construction is of brick with ornamental panelling of white and green enameled brick. The roof is flat and the roof covering recommended is the *Certain-teed* Specification Roof. This is a specially built-up material consisting of several layers of *Certain-teed* Roll Roofing lapped, cemented and capped, making a roofing easy to lay and guaranteed to give absolute protection.

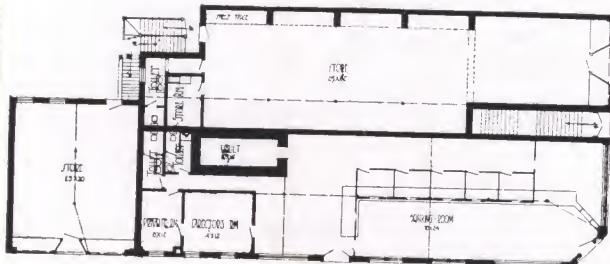
The ground floor plan, it will be seen, provides space for a bank, in connection with which there are the usual requisites—a vault and a directors' room. Back of the bank and fronting on the side street is a good sized store. The other side of the building is

Designed by The Radford Architectural Co., Chicago

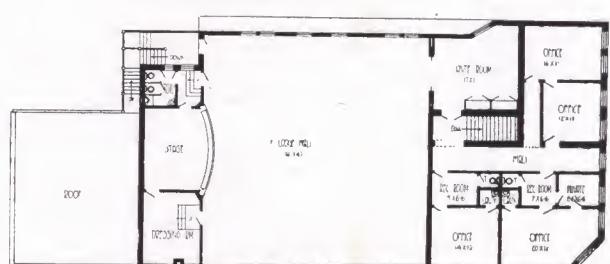
laid out for either a general store, dry goods or furnishings store. The window arrangement assures perfect lighting.

On the second floor, space is allotted to four large well lighted offices which find ready tenants in the medical, dental or legal professions. The rear of this floor is occupied by a large ante-room opening into an auditorium, which may be used for concerts and the like, or for a lodge room. A stage, on either side of which is the dressing room and toilet, is built against the rear wall.

The entire building from the standpoint of construction and arrangement is a noteworthy example of the architects' and builders' co-operation. There is a growing demand for buildings like this in every town. It is on such structures as this that *Certain-teed* Roofing is rapidly replacing the old tar and gravel roofs which soon crack and wear out.



FIRST FLOOR PLAN



SECOND FLOOR PLAN



A Modern Bank Building

OUR financial system is centered in the Bank. Few transactions concerning money, whether buying a bill of goods in the city or a farmer paying off a mortgage, take place without the Bank being interested.

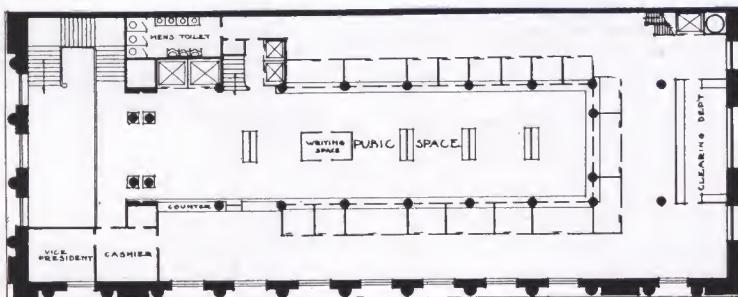
There must be facilities for transacting business rapidly and accurately. Deposits and withdrawals can be made and the Bank officials arrange for making or taking up the loan. It must also deal with other banks in other cities, and this requires a well trained organization. The Northern Trust Company, whose building appears above, occupies the entire building. The main Banking Room, a plan of which appears below, occupies the main floor, the ground floor being given over to the Savings Department. The Banking Room is practically one large, open room, the cages for the various tellers, cashiers, etc., extending only about eight feet high. The second floor is devoted to

C. S. Frost, Architect, Chicago

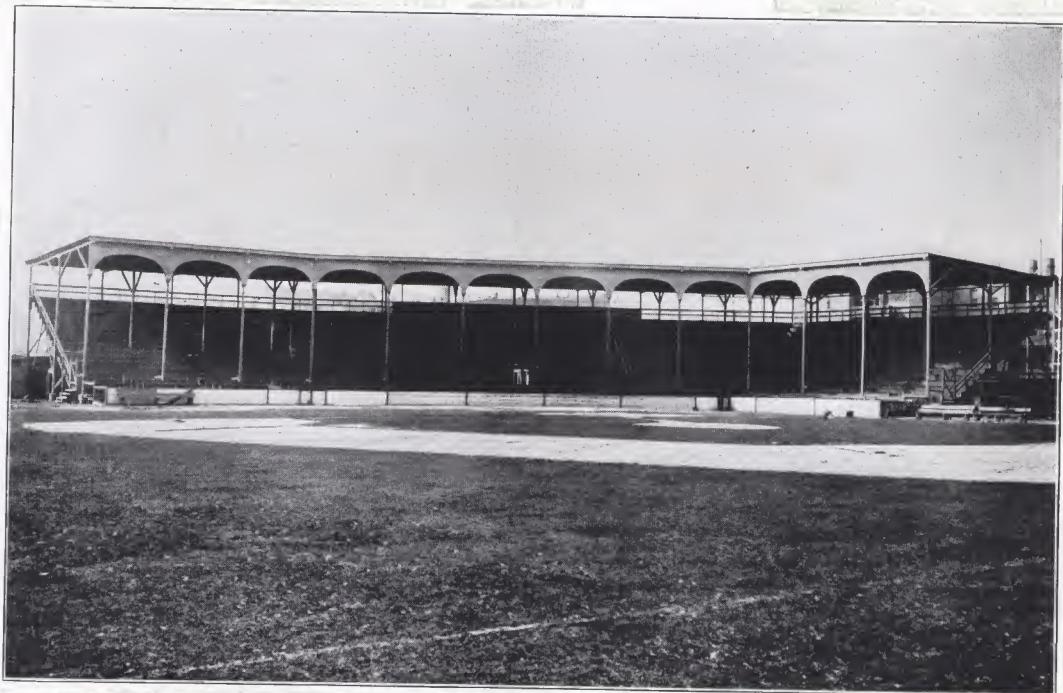
the Trust Department, while the third floor, hidden behind the cornice, contains the working force.

The contents of a Bank must be protected from loss from many causes; not the least is deterioration which may take place in valuable papers, notes, deeds, etc., if they are subjected to any moisture. The vaults are frequently placed near the ground or on the outside walls of buildings, and must therefore be waterproof as well as fire and burglar proof. *Certain-teed* Roll Roofing, laid in asphalt cement, is the ideal material for such places, as it is not affected by heat, cold, water or chemicals.

The roof of a Bank building such as this, being practically flat, should be laid according to the *Certain-teed* Specification, which insures permanent tightness against the weather and which allows any amount of walking upon the roof without injuring it.



MAIN BANKING FLOOR



A Baseball Grand Stand

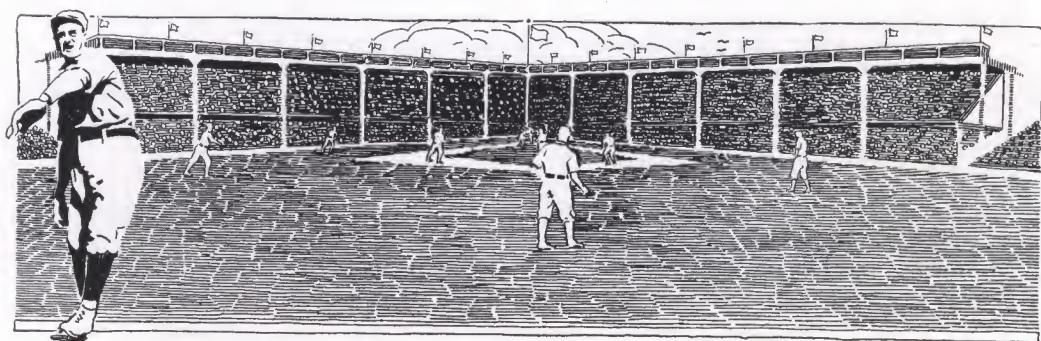
THE national game creates a vast amount of enthusiasm and interest, not only to those who can be on the ground and see the game played, but to those who must read the accounts of it in the daily papers. From the beginning of the season, which begins as soon as the ground is dry enough to play on, until the last game of the Championship Series is played, the baseball grounds occupy the thoughts of the devotees of the game.

The teams located in the smaller towns have a considerable advantage in the selection of their grounds as ample space can readily be secured, both for the players and spectators. In the cities, however, restricted spaces must be utilized and as much as possible must be given to the players. The result has been the erection of grand stands and seats to accommodate the spectators. For their safety great care must be used in the design and construction, as the stand is apt to be crowded during prominent games, and sub-

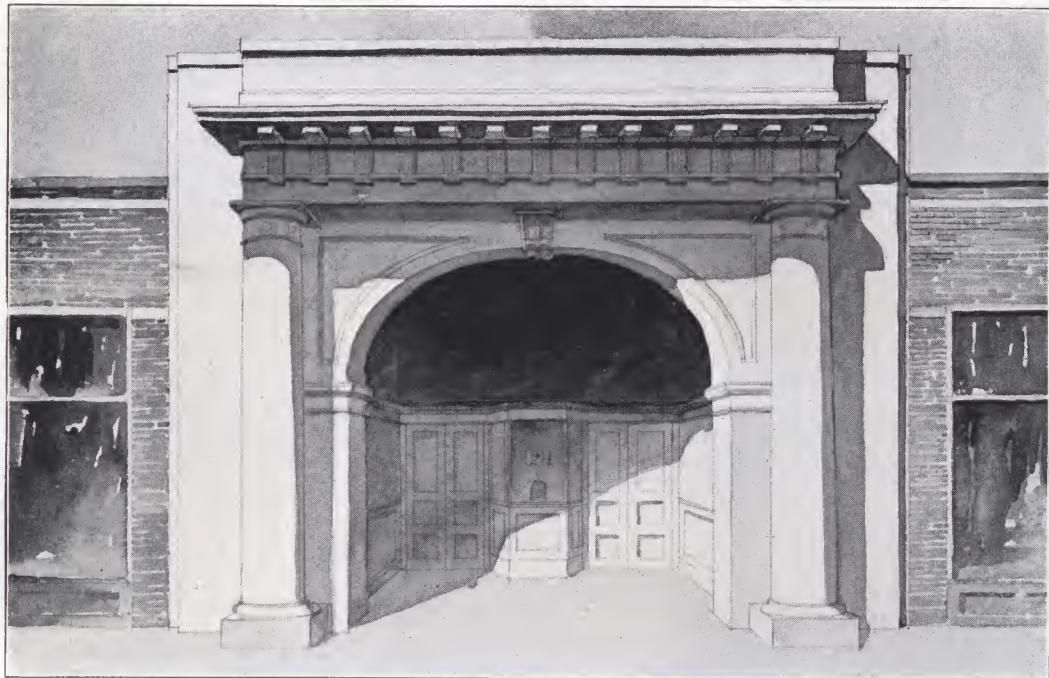
ject to considerable vibration during the frequent demonstrations which follow brilliant plays or the winning run. The fact that the building stands idle during several months in the year should lead the designer to use extreme care that no materials subject to deterioration or sudden weakening be used in the construction. As the stand is not occupied permanently, frequent inspections must be made to see that it is in perfect condition.

While baseball is an outdoor sport, the grand stand must be protected from not only the rain and snow but the sun in the summer. *Certain-teed* Roofing, whether the Roll Roofing or the Specification is used, will give satisfaction whenever it is used for covering such places. It also makes an excellent floor covering and can be used under the seats when the space below the grand stand is utilized for dressing rooms and other purposes.

Gunther's Park, Chicago



"PLAY BALL!"



The Moving Picture Theater

THE widespread popularity of the moving picture shows is responsible for the frequent proposition of converting a store into a moving picture theater. In doing this, the sanitary conditions or the proper means of fire prevention are often overlooked. The level floor of the store has presented a problem; there has to be a sloping floor in the theater, and at the same time there can be no steps to the entry.

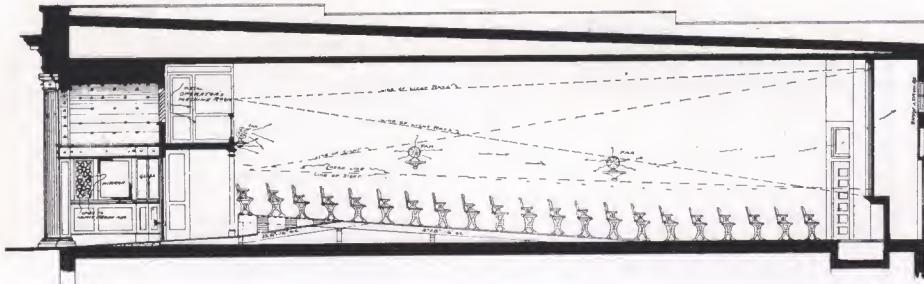
The drawing shown here plainly demonstrate a way out of the difficulty. The store front is removed and a partition run across at a point back about fourteen feet. This allows for a wide vestibule necessary to make the place attractive and accommodate people waiting their chance to get in. The cross section illustrates how a false floor is run upward at a gentle slope. From a point within three rows of the back, the center aisle inclines gently to the front level

A Remodeled Store

again. The piano pit is placed below the floor level to keep the player out of the line of vision.

The theater should have side or rear exits which should be marked and the doors hung so as to open out. Often the arc light used in projecting the pictures ignites the film; and this was formerly a source of much danger and many panics. Now the underwriters require all moving picture machines to be operated in small sheet iron or asbestos houses having automatic doors. All small openings should have hinged doors attached by ropes and pulleys to the main door. Whenever the film ignites the operator simply steps out and closes the main door which automatically closes the other openings.

To further the fireproof construction of this theater and insure a roof that will be cheap and durable, *Certain-teed* Roll or *Certain-teed* Specification Roofing should be used.



SHOWING METHOD OF CONSTRUCTING FALSE FLOOR



A Modern Office Building

D. H. Burnham & Co., Architects

THERE are many reasons for the success of the large modern office building. There is an economy in maintenance, where the building is many stories high, and the increase in ground area does not cause a proportionate increase in construction. The large building permits a better grouping of elevators and corridors, as well as enables a large corporation to secure space enough for its entire organization on one floor, or on adjoining floors.

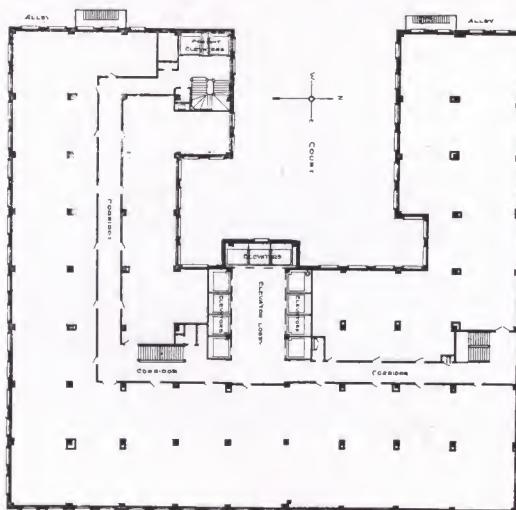
In spite of the competition between different concerns, there is a tendency for the various lines to get together in the same building. Some buildings are

given almost entirely over to lawyers; others to publications; etc.

A large building of course requires more help than the smaller building, but it also enables the owners to engage a much more competent manager and superintendent. This, of course, secures the better class of tenants and those who are more apt to be permanent.

In the McCormick Building, recently built at Chicago, the idea of the architects was to design each floor so that it could be used either as a whole by one concern, or subdivided for two or more, giving each tenant whatever space was desired. This necessitated equipping the entire building with every modern device for facilitating the transaction of business, and giving equal facilities to every office regardless of size. In the building will be found mail chutes, vacuum cleaning apparatus, electricity for light and power, telephone service, hot and cold water, etc.

A modern office building requires an absolutely tight roof, as it must protect the entire building and must be particularly well laid around all skylights, shafts, etc., as a small amount of water striking a telephone or electric cable might result in great loss and damage. The *Certain-teed* Specification is designed for such buildings as these where the greatest perfection in roofing must be obtained.



Arrangement of top floors
of the McCormick building



A Loft Building

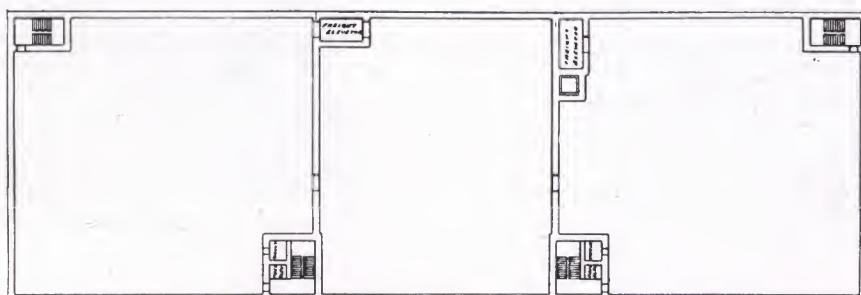
ONE of the problems of the modern manufacturer is to locate his factory where it can be easily reached by a large number of employees. Specialization in various lines has reduced the actual floor space required, so that each employee requires a comparatively small space. The manufacturer employing a large number of hands wishes to get them all on one floor, if possible, and to be further relieved from the care of maintaining a building or manufacturing plant.

The fact that there are large numbers of concerns situated as above has led to the establishment of modern loft buildings. The one shown at the top of this page is typical of what may be found in every large city. While the building covers almost an acre of land, it is subdivided by fire walls into three sections, thus allowing a concern to have whatever space it desires, and readily permitting the extension of business by occupying more sections or more floors.

Frank E. Davidson, Architect

A building of this kind is easily maintained, as one power plant takes care of the whole building for heat, light and power. Elevators for both employees and freight relieve the manufacturer of still further care, while a complete sprinkler system greatly reduces the danger of fire loss.

A building of this kind is apt to contain thousands of dollars worth of expensive machinery and materials in various stages of manufacture. These must be protected from damage through leaky roofs and the most complete protection is guaranteed by *Certain-teed* Roofing. The *Certain-teed* Specification Roof provides for the conditions found in buildings like the above. Not only is the roof made permanently watertight, but it is advisable to place a layer of *Certain-teed* Roofing between the floors, so that there is no chance of water, oils or other liquids finding their way to the floor below.



LAYOUT OF FLOOR PLAN

Certain-teed Roll Roofing economical for general use

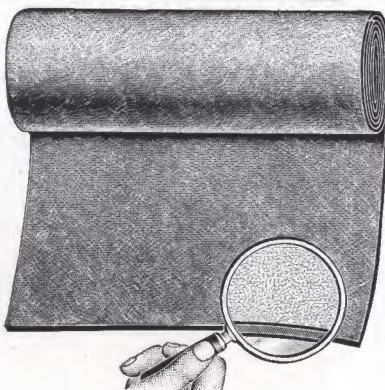
FOR residences, cottages, factories and farm buildings, we suggest the use of Certain-teed Roofing in Rolls. It costs less than metal, tin, slate or wood shingles, and it is less expensive to lay; 3-ply guaranteed 15 years, 2-ply, 10 years, and 1-ply, 5 years.

Certain-teed Roll Roofing is made in various finishes which are all alike in their construction—the only difference being in the finish.

The foundation is a heavy sheet of long fibre felt thoroughly saturated with Certain-teed Compound—a blend of asphalt and asphalt oils taken out of the earth. These materials were never a gas like coal tar—they dry out very slowly—and this is important because roofs do not *wear* out, they *dry* out.

The saturated felt is given a heavy protecting coat of Certain-teed Compound after which the various finishes are applied—producing the different styles described below.

Certain-teed Smooth Surface Roll Roofing



This style is finished on both sides with a coating of powdered soapstone or talc, giving it an appearance similar to rubber belting. For this reason it is often called "Rubber Roofing" although as a matter of fact no so-called "Rubber Roofing" contains any rubber.

It is made in three thicknesses:

1-ply, weight about 35 lbs. per square.

2-ply, weight about 45 lbs. per square.

3-ply, weight about 55 lbs. per square.

Certain-teed Sand Coated Roofing

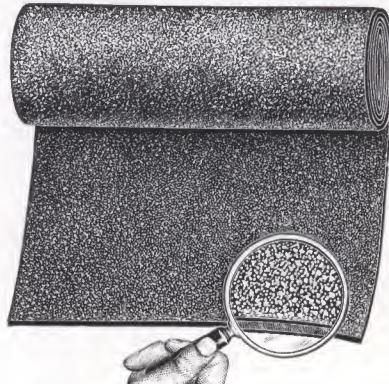
This style of finish consists of both sides being sand coated. The sand coating adds no particular merit, although in certain localities this style has met with particular favor. The sand coating adds twenty pounds per square to the weight, and consequently increases the freight charges.

Made in three thicknesses:

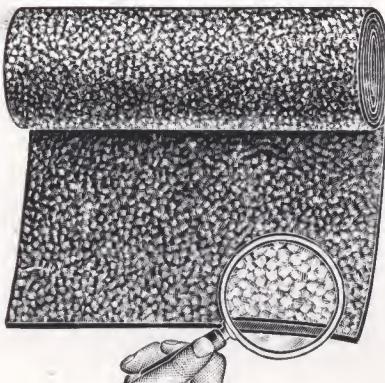
1-ply, weight about 55 lbs. per square.

2-ply, weight about 65 lbs. per square.

3-ply, weight about 75 lbs. per square.



Certain-teed Mica Coated Roofing



On account of its attractive appearance there is more or less demand for roofing surfaced with sparkling mica. While a great deal of the mica will eventually wash off at the same time there is a scale coating of mica thoroughly imbedded in the asphalt.

Made in three thicknesses:

1-ply, weight about 35 lbs. per square.

2-ply, weight about 45 lbs. per square.

3-ply, weight about 55 lbs. per square.

Certain-teed Burlap Reinforced Roofing

A special roofing reinforced with heavy Calcutta Burlap, designed for use where great tensile strength is desired, or conditions are unusually severe. Both the Smooth Surface and Mica Coated Roofing can be finished with the Burlap Reinforcement.

This Certain-teed Burlap Reinforced Roll Roofing is a great improvement over other Burlap Roofings on the market because it is so constructed that the burlap lies next to the roof boards, and is protected from the weather by a heavy sheet of saturated felt. On account of the high cost of burlap this style roofing is much more expensive than those previously described, which are just as durable—the burlap only adds strength.

Made in three thicknesses:

3 layer, weight about 45 lbs. per square.

5 layer, weight about 55 lbs. per square.

7 layer, weight about 65 lbs. per square.

Special Note: All the above roofings are put up in rolls 32 inches wide, containing one square (108 square feet) and two squares (216 feet). Also furnished in 36-inch width, but containing the same number of square feet. We recommend the 32-inch width instead of the 36-inch, because it has been found to be a more practical width to handle and lay smoothly.

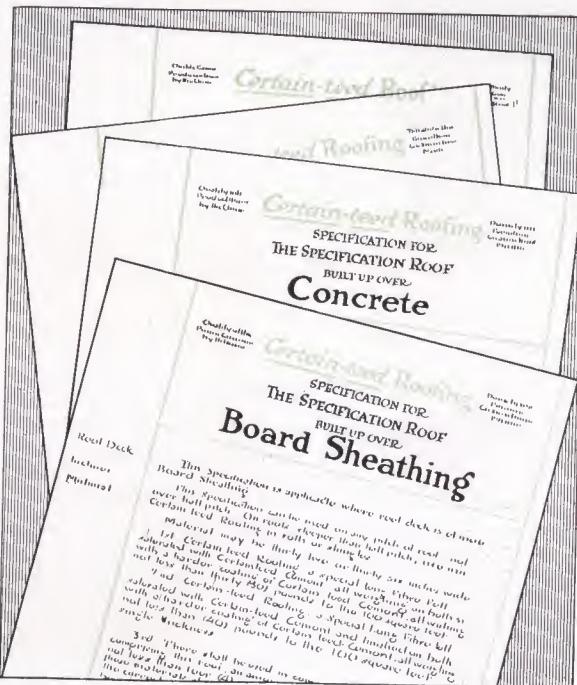
A square is 100 square feet (10 ft. x 10 ft.) but we always furnish, free of charge, 8 square feet extra with each square to allow for laps.

Sufficient cement for laps, large headed nails and illustrated directions for laying packed in the core of each roll.



Certain-teed Specification Roofing

—a built-up-roof for large and flat surfaces



Sample Pages of the Specifications

NO T a new roofing—but a new scientific method of applying materials that have been time tested on the roof.

Certain-teed Specification Roofing is not an experiment—it has been endorsed by leading architects and engineers.

It is being adopted by wise, shrewd purchasing agents and superintendents for railroads, factories and industrial plants everywhere.

Certain-teed Specification Roofing is rapidly replacing the old style coal tar and gravel roof on apartments, skyscrapers, warehouses and large surfaces where conditions are unusually severe and the greatest durability is desired.

This method of construction no longer makes the use of the smoky, hot tar kettle necessary—because *Certain-teed Specification Roofing* can be laid with cold liquid cement that hardens with age and holds everlasting.

Each layer a complete roof in itself.

Each layer of *Certain-teed Specification Roofing* is actually a complete roof in itself—and there are three layers in all. The top layer consists of *Certain-teed Roll Roofing*—making a roof 100% water-tight—a splendid insulation against cold and heat.

In building up a Certain-teed Specification Roof, first two layers of Certain-teed Roll Roofing are laid, lapping each sheet one inch more than half its width. Then this is capped with a heavier sheet.

The lower sheets are cemented the full width of the lap, then coated solidly and the cap sheet imbedded.

Certain-teed Specification Roofing has other advantages—it can be built on any incline and will not shove or run under the direct heat of the sun.

It does not have to be weighted down with non-waterproof materials, such as gravel or slag—an important advantage.

And the down-spouts and gutters do not become clogged and rot out.

*Detailed Specifications
free upon application*

Detailed Specifications for applying Certain-teed Specification Roofing over concrete or board sheathing will be furnished free to any one interested, including Architects, Contractors, Builders and Carpenters.

So write us today for our book, "A Mass of Evidence," illustrating methods adopted by leading architects and engineers for the application of roofing, waterproofing and insulation materials.

It is the most complete book of its kind ever published—it contains *actual photographs* of skyscrapers, apartments, warehouses, factories, depots, banks, livery barns, college buildings, hospitals—any and all kinds of buildings covered with Certain-teed Specification Roofing—all illustrations are reproduced from actual photographs—and the *camera cannot lie*.

Ask your dealer or write the General Roofing Manufacturing Company at any of their branches for the book—the book will be sent promptly.

Address General Roofing Manufacturing Company, E. St. Louis, Ill.; York, Pa.; Marseilles, Ill.; Minneapolis, Minn.; San Francisco, Cal.; Memphis, Tenn.; Winnipeg, Canada; London, England; Hamburg, Germany.

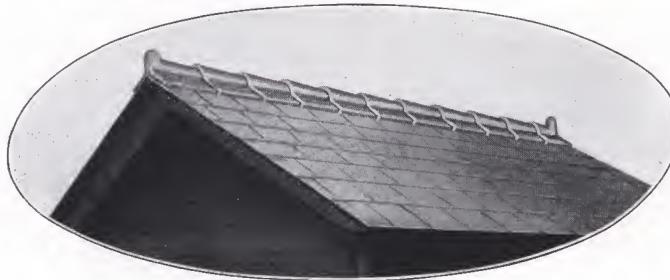


Actual Size of Book is 15 inches by 10 $\frac{3}{4}$ inches

Certain-teed Shingles made in three colors

Artistic—Attractive—Durable

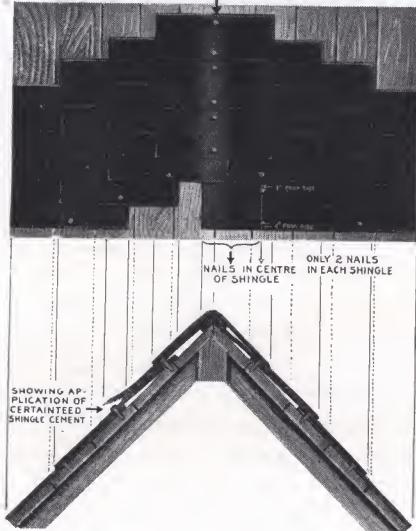
THESE new shingles make a very handsome roof, and are being used extensively on the most expensive buildings, such as summer cottages, bungalows and fine residences.



Certain-teed Shingles at close range

less cost—lend themselves to any kind of trimmings along the ridges, hip and angles of the roof.

IN PLACE OF THIS COURSE OF CERTAINTEED SHINGLES, A CAP SHEET OF CERTAINTEED ROOFING, RIDGE BOARDS OR TILE CAN BE USED



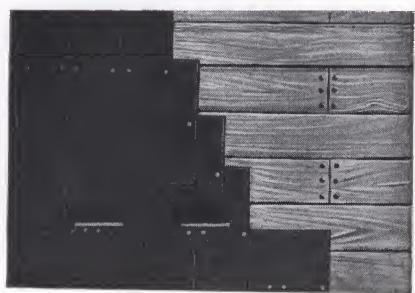
SHOWING METHOD OF LAYING AT RIDGE

They have all of the beauty and attractiveness of tile and slate without any of the drawbacks—they are much more durable and lasting than wooden shingles—cost less—can be put on quicker with

less cost—lend themselves to any kind of trimmings along the ridges, hip and angles of the roof.

Certain-teed Shingles come in permanent colors, red, green, and slate gray. They are made of the same materials as other high-grade Certain-teed Roofing in Rolls.

Look for the Certain-teed Label of Quality on every crate and make certain you are getting the genuine.



SHOWING METHOD OF LAYING AT EAVES

Water-proofing and Damp-proofing



Look for this *Certain-teed* Quality Label on the back of every roll—it's there for your protection.

IT IS of utmost importance that floors and basement walls of all buildings be rendered absolutely water and damp proof.

Nearly every building requires a specification to meet its peculiar condition. If we have only natural seepage to contend with and the building stands on good firm earth, we recommend the footings to be put in and coated with *Certain-teed* Cement, then apply in two courses 15 lb. *Certain-teed* Felt mopped solidly and coated with *Certain-teed* Cement or one layer of *Certain-teed* Damp-proofing, as shown in accompanying illustration.

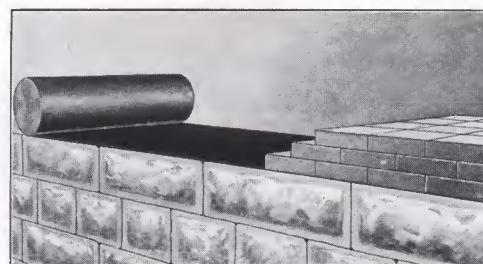
The exterior walls given two even coats of the same cement, allowing the first coat to dry before applying the second, care being used that no blisters are allowed to form, and any unevenness in the surface thoroughly filled with the coating.

Where a head of water has to be contended with we specify as above, but use three sheets of 15 lb. *Certain-teed* Felt and between the second and third sheets cement a layer of heavy Calcutta Burlap. Or one or more layers of *Certain-teed* Roofing or *Certain-teed* Reinforced Roofing can be used. This method has given most lasting results in the water-proofing of bridges and viaducts or any structure subject to strain and vibration.

Many buildings have been treated by the Integral method, but where foundations settle or walls crack the value of the compounds mixed with the concrete are entirely lost.

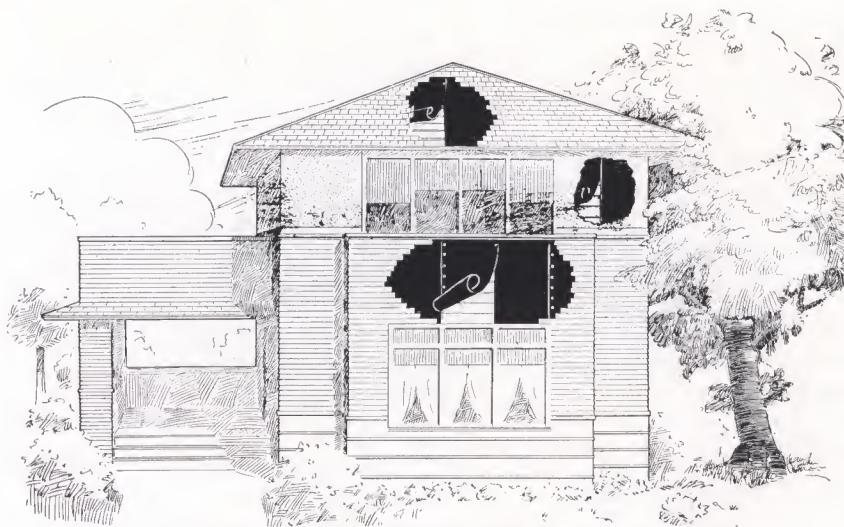
Most buildings of today are equipped with Automatic Sprinkler Systems. Untold damage has been done when the sprinkler has done its duty where floors have not been waterproofed, no matter whether the flooring is laid on concrete slabs or over the tile or wood joints.

We recommend *Certain-teed* Black Insulating Paper, a material that will not disintegrate or dry out but retain its water-proofing qualities as long as the building stands.



Method of Water-proofing and Damp-proofing a Foundation Wall

Proper Insulation Is Important



Showing Certain-teed Black Insulating Paper applied to the side of a frame building

EVERY building should be thoroughly insulated against heat, cold and wind—this can be accomplished at very little expense by lining it throughout with a good substantial water-proof paper before the weather boarding, stucco or cement finish is applied. It will save its cost in fuel bills in the course of one or two winters. It

means a warmer house in winter—a cooler house in summer and a cleaner house at all times.

The cost of insulation amounts to almost nothing, averaging \$15.00 to \$30.00 for an ordinary sized residence.

In many cheaply constructed buildings a lining paper is only used around doors and window casings. This, however, is a mistake—the entire building should be covered. Many architects make a practice of specifying a sheathing paper under the roof as well as on the sides of the building.

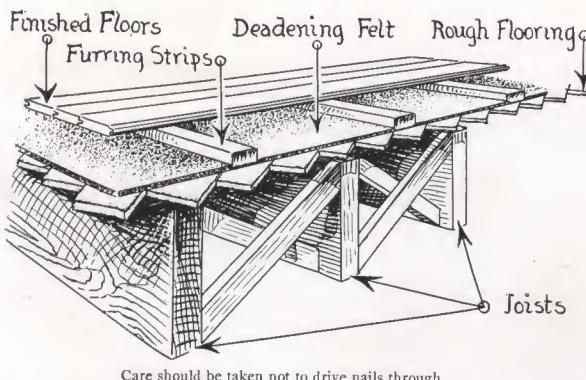
Where special protection is desired several layers of paper are often used. For this purpose Certain-teed Black Insulating Paper is extensively used—it is waterproof—wind and dustproof, also vermin-proof as well as odorless.

This material is made particularly for insulation work in the construction of Refrigerator and Cold Storage Plants. In many places a heavy grade of this Certain-teed Black Insulating Paper is used for covering screen doors, thus converting them into storm doors.

Concrete and stucco finishes are not strictly moisture-proof, therefore a water-proof paper of this kind should always be used under the wire or metal lathing in this kind of construction.

Ordinary Red Rosin Sized Building Papers are not waterproof and should not be used when the best and most durable results are desired.

Sound Deadening a Necessity



to play the piano—or when the young lady of the household is entertaining callers?

And where will you enjoy more “solid comfort” than in a reasonably sound-proof house?

The cost of providing against the ready transmission of sound through the walls, partitions and floors of a house are very nominal when the materials are installed at the proper time during its construction.

But once the house is built without these provisions it is well-nigh impossible to remedy the defect.

While there are many fancy-priced materials on the market, such as unsanitary animal hair—dried sea weed and the like—most extensively used material for this important work is Certain-teed Deadening Felt—a felt similar to that used in the manufacture of Certain-teed Roofing.

It is made in rolls 36 inches wide—and in various thicknesses, weighing $\frac{3}{4}$ lb., 1 lb., $1\frac{1}{2}$ lb. and 2 lbs. per yard.

To produce the most satisfactory results the heavier weights should be used and several thicknesses should be applied.

In the sound deadening of floors we recommend that the furring strip to which the finished floor is nailed be placed a little one side of the joist, as per illustration, and that no nails be driven through, creating a direct channel for the transmission of sound.

It is a simple matter to line the floors, walls and partitions of a house with Certain-teed Deadening Felt—the cost is very nominal, and the results are most satisfactory.

Certain-teed Deadening Felt, in addition to being a sound deadener, is a splendid non-conductor of heat and cold and is often used in connection with asbestos paper for wrapping furnace pipes, hot and cold water pipes, for lining refrigerators and as an insulation in cold storage work.

IN these days of Apartment Buildings and Flats, the necessity for a material to deaden sound between rooms and between apartments is an absolute necessity.

Some provision for the deadening of sounds should be made even in the construction of the most modest cottage.

What is more annoying than the transmission of sounds when there is sickness in the family—when daughter is learning

Certain-teed Roofing

(Quality Cert-ified—

Durability Guaranteed)

In Shingles
and Rolls

Guaranteed 15 years—lasts longer

Sold Everywhere—Used Anywhere



Look for the Certain-teed Quality Label
on each Roll and Crate of Shingles—it
is placed there for your protection.

General Roofing Manufacturing Co.

*The World's Largest Manufacturer of Roofings
and Building Papers*

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